



THE OFFICIAL ORGAN OF THE B.B.C.

Vol. 2. No. 24.

[Registered at the
G.P.O. as a Newspaper]

EVERY FRIDAY.

Two Pence.

OFFICIAL PROGRAMMES OF THE BRITISH BROADCASTING COMPANY.

For the Week Commencing
SUNDAY, MARCH 9th.

LONDON	CARDIFF
ABERDEEN	GLASGOW
BIRMINGHAM	MANCHESTER
BOURNEMOUTH	NEWCASTLE
SHEFFIELD (Relay)	

SPECIAL CONTENTS:

TERRORS OF AFTER-DINNER SPEAKING.
By Lord Riddell.

THE FADING OF SIGNALS.
By P. P. Eckersley.

WIRELESS IN THE MIDLANDS.
By Arthur R. Burrows.

OFFICIAL NEWS AND VIEWS.

HOW TIME IS BROADCAST.

CALIFORNIA CALLING!

THE CHILDREN'S CORNER.

LETTERS FROM LISTENERS.

Concerning Mars.

By J. C. W. Reith, Managing Director of the B.B.C.

THERE was an article in these pages recently entitled "Seeing the World from an Armchair," and it dealt with the subject of television. Wonderful as are the results achieved by the transmission of sound by wireless, the portrayal of sights and scenes by the same method will be further reaching still.

There is little doubt that this transmission is theoretically quite possible. One has to look at the facts: vision is due to the impinging of light rays on the retina of the eye. Seeing, however, that light and electric vibrations are identical in their essential details, it is obvious that there can be no fundamental barrier to converting the one into the other for the purpose of conveyance. How exactly this is to be done effectively and economically is only a matter of time. One can get a blurred image to-day. Wireless telephony was possible many years before it became a practical proposition.

By this means the pains and even terrors of separation will be lessened. Journeyings in foreign countries and residence in the tropics will lose many of their drawbacks. One can foresee also great educational advantages resulting from television. New landscapes, mountains, seas, river boundaries, busy towns may all be presented to breathless classes of children in their schools. To them may come direct living pictures of strange animals, rare birds, quaint costumes and queer customs, the varied types of the human species, colossal architectures of distant lands and bygone ages. How stirring and fascinating to see such things as they really are to-day, from the schoolrooms of London, Glasgow, Manchester, and so on.

But what interests one even more is that the possibilities of vision are not bounded by what this world affords. The world is a small part of the solar system, which again is infinitesimal compared with the universe. And when we can see by wireless we may be enormously farther

on in our attempts to communicate with places beyond this earth—for example, with the planet Mars.

I am quite aware that with our present limited knowledge of electricity it might be considered idle to speculate on the possibility of communicating with a place so far away as forty million miles, seeing that the greatest distance which has been available for experimenting so far is the greatest distance earth affords, namely, 12,000 miles.

But when the day comes in which we are able to unlock the power stored in the atom, it should then be comparatively simple to project electric waves for more than the distance between us and Mars. The blanketing by our semi-electrified atmosphere and the possibility of there being a similar one round Mars presents one of the most serious bars to practical achievement.

Now, the point is that while we could not hope by any system of turning off or on giant lights (as their wave-length is probably too short), or of making deafening noises (because there is no intervening air), to attract the attention of beings stationed at such distances, we could do so by wireless. By means of telephony we might, provided the Martians have ears corresponding in structure to ours, attract their attention to our sound signals.

Words would, of course, be useless, being no more intelligible to them than Morse code without the key. And it would be impossible to make them know what we wanted to convey through any sounds we might make, not though we used all the languages on earth from China to Peru and tried for a thousand years. It would, however, be interesting to try the effect upon them of different tones, different contrasts and combinations. In the meantime Mars

(Continued overleaf in column 2.)

Arrested For A Song.

The Story of "The Exile of Erin." By A. B. Cooper.

ONE of the most pathetic of all Irish songs is "The Exile of Erin," and, strangely enough, it was penned by a Scotman, Thomas Campbell. A curious story is told concerning this celebrated song. Campbell was touring the Continent, and at Hamburg met Anthony McCann, exiled from his native country for being implicated in the Irish Rebellion of 1798.

Campbell had always had a strong affection for the Emerald Isle, and in addition to "The Exile of Erin," he wrote "The Irish Harper and His Dog Tray," as well as "O'Connor's Child," so that his strong sympathy went out to McCann, and a little later, at Altona, he wrote this fine song, and sent it immediately to the *Morning Chronicle*, where it was published.

There came to the beach a poor exile
of Erin.
The daw on his thin robe was heavy
and chill;
For his country he sighed, when at twilight
repairing
To wander alone by the wind-beaten
hill.
But the day-star attracted his eye's sad
devotion,
For it rose n'er his own native isle of the
ocean,
Where once in the fire of his youthful
emotion,
He sang the bold anthem of "Erin go
bragh!"
"Sad is my fate!" said the heart-broken
stranger;
"The wild deer and wolf to a covert
can flee,
But I have no refuge from famine and
danger,
A home and a country remain not to
me.
Never again, in the green sunny bowers,
Where my forefathers lived, shall I spend
the sweet hours,
Or cover my harp with the wild-woven
flowers,
And strike to the numbers of "Erin
go bragh!"
"Erin, my country! though sad and for-
saken,
In dreams I re-visit the sea-beaten
shore;
But, alas! in a far foreign land I awoke,
And sigh for the friends who can meet
me no more!
Oh, cruel fate! wilt thou never replace me
In a mansion of peace—where no perils
can chase me?
Never again shall my brothers embrace
me!
They die to defend me, or live to
desire."

Its appearance gave offence in exalted quarters, and when presently he landed at Dover, he was immediately arrested as a French spy. Those, of course, were war times, and any stick was good enough wherewith to beat anyone suspected of being "against the Government." The magistrate before whom the poet was arraigned searched his papers, and among them—what do you think he found? The manuscript of one of the finest patriotic odes in the English language, "Ye Mariners of England." One poem stood for the other and Campbell was at once liberated.

But Campbell had to face another form of worry over the same beautiful, but unfortunate, song, although at a later date, for he was accused in the public press first of actual literary theft, and then of deliberate plagiarism of the work of George Nugent Reynolds.

It is certain that Reynolds never made any complaint, much less that he claimed to have

written "The Exile," but his champions seem to have discovered a similar hit in the song to one which was admittedly Reynolds's, the first verse of which runs as follows—

Green were the fields where my forefathers
dwelt, O.
Erin, ma vouranen i slan leat go bragh!
Though our farm was small yet comforts we
felt, O.
Erin, ma vouranen! etc.
At length came the day when our lease did
expire,
And faint would I live where before lived my
sire.
But oh! well-a-day, I was forced to retire.

Defending His Authorship.

It was said that Reynolds actually wrote "The Exile" as a second part to this doggerel.

Internal evidence suffices to dispose of any such accusation, for Reynolds could not have written "The Exile" if he had been offered a thousand pounds for doing it, because it is a work of genius and the production of a great poet. Nevertheless, Campbell was driven to defending his authorship in the *Times* newspaper, his reply appearing on June 17th, 1830.

Campbell himself had the opportunity of claiming a poem which was not his own, for when a famous Edinburgh journal copied a poem from an obscure Irish paper, a poem entitled "The Burial of Sir John Moore," now known to be the work of an Irish peasant named Wolfe, and that without signature, almost everybody jumped to the conclusion that it was Campbell's work and would hardly believe him when he denied it.

Concerning Mars.

(Continued from the previous page.)
would be kept under minute telescopic observation and the varying effects noted.

On the other hand, if we transmitted to Mars pictures of, say, animals along with their Esperanto names, if the pictures corresponded even roughly with similar objects in Mars, the inhabitants would soon connect our sounds with the objects known to them, and be able in time to answer us, provided, of course, that they have our knowledge of electricity, which is not an impossible assumption, and provided their eye and brain equipment is comparable with ours. It may all sound far-fetched, but stranger things perhaps have happened. The discouragements of to-day lead to the discoveries of to-morrow.

Perhaps even now the Martians, labouring under the impression that ours is a more congenial climate than theirs, are preparing gigantic heavier-than-air machines to transport themselves hither in bulk. Let us warn them, if we can, that the climate of this part of the globe leaves much to be desired, and that, anyhow, all London is booked up for the period of the Wembley Exhibition.

It all might lead one to think that the Martians, who may have advanced further in scientific thought and technology than we have, might give us in the end a method for producing atomic energy. More awful, perhaps, is the thought that owing to a code failure this method might be wrongly applied, and that an atmospheric marring our reception should cause the eventual disruption of the planet we call the Earth!

California Calling!

When to Listen on Sunday Next: The B.B.C.'s New Experiment.

TO-MORROW, March 8th, or, to be more accurate, in the early morning of Sunday, March 9th, a special test transmission will take place from California in an attempt to get across the American Continent, and across the Atlantic, too, so that listeners in England will be able to hear a programme from a station about 6,000 miles away.

The station transmitting the programme is KFI, Los Angeles, owned by Mr. Earle C. Anthony, of California. This station is the one with the greatest range on the Californian coast, and is heard regularly on the east coast of America.

The programme has been arranged to take place from 7 to 8.30 p.m. Pacific time on March 8th, which corresponds to 3 to 4.30 a.m. on the morning of March 9th in this country. It will be received by wireless and re-transmitted from the east American coast.

From Biggs Hill to London.

If conditions are favourable, there should be no difficulty in picking up this re-transmission, and listeners with three or four valve sets may be able to hear this direct from America.

Should we receive the transmission successfully, and more or less free from atmospherics, it will be sent from Biggin Hill by land line to 21/O, and will then be re-transmitted simultaneously from there and from all the other B.B.C. stations.

Original arrangements were made for the station at Hastings, Nebraska, to relay the programme by wireless from Los Angeles to New York in case transmission did not get to New York with sufficient strength. But,

at the time of writing, it is not known whether this intermediate station will be used or not in this experiment.

No details are yet to hand of the kind of programme that has been arranged, but it will probably consist of announcements and orchestra.

Another experiment of great interest will be made on the night of March 13th, when we shall attempt to transmit a special programme to America. The Savoy Bands will play until midnight, and then again from 1 to 2.30 a.m. on the morning of the 14th test. Transmission will take place from all stations, and full publicity has been given to broadcast listeners on the other side of the Atlantic. Special efforts will be made there to receive our stations.

Two-Way Communication.

In the interval from midnight to 1 a.m., when the Savoy Bands will not be playing, an attempt will be made at two-way communication between this side and the American side. The first attempt to do this was made on the morning of December 2nd last year, but was unsuccessful owing to bad atmospheric conditions. On that occasion it was impossible to pick up the replies of the American stations, although the British stations were heard in some parts of America fairly well.

The procedure will again consist of calling up America for ten minutes, and awaiting her reply during the next ten minutes.

If co-operation is obtained, and suitable conditions exist in the atmosphere, there is no reason why the experiment should not be successful.

How Time is Broadcast.

The Big Ben and Greenwich Signals.

THE uniformity of time divisions is a recent development of civilization. We all know that the seconds and minutes of time are identical in all parts of the world, and that it is only clock-time which is divided and regulated for the convenience of man.

A hundred years ago in our own country uniform time was unknown. The clocks in both Houses of Parliament, as Sir Frank Dyson, the Astronomer-Royal, recently pointed out in a broadcast talk, and those of the Horse Guards, and St. James's, were regulated by the carriage of accurate time from the King's private observatory at Kew, established by George III. In the country generally, the time was kept in a very rough and haphazard way.

Guaranteed Accuracy.

To-day, every home with wireless receiving apparatus receives direct from Greenwich the most accurate time in the world, and receives, too, time broadcast from Big Ben, the 320ft. tower of Westminster.

Every day, the Greenwich clock, by means of refined observations of certain stars made during the previous night, is adjusted to mark accurate time, and it is this clock which now ticks in the home of every listener. Before the minute of time to be recorded, the preceding five seconds are heard as clicks; the time signal itself, falling on the exact zero, is heard as a louder click than the others. These clicks are the sound of the escape wheel, which is permitted to touch a spring with six successive teeth. This makes an electrical contact, which transmits a current direct to the 210 aerial. The personal factor is thereby entirely eliminated, and accuracy is guaranteed even to the fraction of a second.

World's Most Accurate Clock.

Big Ben is a more romantic time-keeper than the Greenwich clock, and its signals are probably awaited by a greater number of people than those of any other clock in the world. Despite its age, and its exposure to every inclemency of the weather, it has proved itself to be remarkably accurate, and the Astronomer-Royal in his report last year stated that during the year 293 signals were received from Big Ben, and on only three occasions was the error as great as three seconds. On 90 days it was one second, and on 100 days less than half a second.

This accuracy would have delighted Sir Benjamin Hall, who, as Chief Commissioner of Works, was responsible for Big Ben's construction in 1856, when it was stipulated that its errors should never exceed 5 seconds! The signals from this remarkable clock are broadcast from the tower itself by means of a microphone connected by land line direct to the transmitting station of 2LO, and thence by land line to all stations.

Time Signals Abroad.

Time accuracy is an important factor in modern life, and this new wireless service is greatly appreciated. Distribution of time by wireless was, however, done in January, 1905, by the Naval Department at Washington, and from 1910 Eiffel Tower has sent out regular time signals. These, too, sent out from Bordeaux on longer wave-lengths and with greater power can be heard half-way round the world, and are invaluable to all sea-bound traffic.

But this innovation of domestic time signalling is new to home trade and commerce, and it will be interesting to know what the nation has saved in a year's time as a result of utilizing the simple apparatus of wireless science in the aid of trade.

Wireless in the Midlands.

By Arthur R. Burrows, Director of Programmes.

Mr. Burrows is making a series of visits to the areas served by the several B.B.C. stations. He has promised to give to "The Radio Times" impressions of his tour. A FEW minutes to midnight on Christmas Eve—the one hour in all the year specially dedicated to happy childhood—several ghostly figures, one of them bearing a remarkable resemblance to Father Christmas himself, might have been seen climbing about the courtyard of a Home for Crippled Children about seven miles from Birmingham.

The spectres were in reality the Uncles and Engineers of the Birmingham Broadcasting Station, putting the finishing touches to a series of pleasant duties, by installing the serial for a wireless set which now provides pleasure for over 200 little cripples.

Midnight on Christmas Eve, you may say, is a ridiculous time at which to fix an serial. It was not an ideal time; but a promise had been made, and the promise would be kept. As a matter of fact, the party concerned had only just finished a task occupying many strenuous

As an example of this beautiful spirit of unselfishness in the Midlands, I give the plain story of the manner in which a little girl of three responded.

(She arrived at the Birmingham Studio one afternoon having dragged up the long flights of stairs her favourite pet, a teddy bear as big as herself.) The moment the idea of contributing toys to sick children was grasped by her, she turned to her mother with the words: "I must send my best toy, mustn't I?" Her mother's reply was: "Yes, dear, I'd like you to send it, but you won't try for it, will you?"

"No, mummy," said the little one, and "No, mummy," it was.



BIRMINGHAM STUDIO. Photo: Western Electric Co., Ltd.

nights at the end of the evening programmes—that of distributing 3,000 toys amongst the several Children's Hospitals in the Birmingham area.

It was a chance remark by one of the Aunts at 5IT which started this flow of toys to the Birmingham Station. A doll had been sent to the organizers of the Children's Hour, and it was suggested that this should be forwarded to a child less fortunate than those who usually listen. The suggestion went straight home to the warm-hearted Midlanders, and for many days following, postmen struggled up the stairs into the Birmingham Studio bowed down by sacks crammed with toys.

Sorting the Toys.

Then came the task of classifying them. Night after night, when broadcasting was done, the Aunts and other volunteers applied themselves to the work of seeing that blind children received only such toys as would give them pleasure through the sense of touch; that children suffering from spinal complaints would have the lightest and easiest of the gifts; that the deaf and dumb would not receive musical toys, and that those suffering from nervous complaints would receive only things of an unbreakable character. On the day for distribution, the several sacks of toys so classified were placed on a motor-lorry and delivered by "Father Christmas" to the various hospitals. Over 5,000 children were made supremely happy on Christmas Eve.

It has required some cross-examination on my part to get these details from the Birmingham Aunts and Uncles, but they are insistent that

When the afternoon came for Teddy's delivery to 5IT, this little toddler carried her toy proudly to the New Street Studio, kissed it, and placed it on the heap of children's gifts with a heart-searching and angelic smile.

The Human Touch.

I have chosen these incidents with which to open my impressions of wireless in the Midlands because they indicate something of the "human touch" existing the Birmingham Station, its listeners and the communal interests of the area served by the station. The wall of the studio behind the microphone at 5IT is covered with pictorial tributes from listeners of all ages, and such tributes do not come from lukewarm hearts. Strong bonds exist between other stations and their listeners, but they are not all of the same form.

Choral singing is a great feature of the Birmingham area. I dare not suggest that it is more fully developed even than in South Wales, because I have to visit Cardiff shortly and a lot of damage can be done with a lump of anthracite; but there are choral societies in and around Birmingham which, though rarely heard at competitive musical festivals, need have no fear in attending the best of these. It is natural, therefore, that the Birmingham Studio should make a feature of choral work.

Mr. Percy Edgar, the versatile Station Director, is fortunate in having the collaboration of Mr. Joseph Lewis (the conductor of the Birmingham, Wolverhampton and Walsall Choral Societies), who has built up, with the assistance of many popular vocalists in the area,

(Continued overleaf in col. 2.)

The Fading of Signals.

By P. P. Eckersley, Chief Engineer of the B.B.C.

WHAT I am going to say should be of special interest to those who live some 50 miles from a broadcast station—those unfortunate, in fact, soon to become fortunate, if and when the high powered station springs into being, and England, Wales, Scotland and Northern Ireland become covered with broadcast.

Many may have experienced fading, so called, living near to a main station, but this is a different sort. I am not going to confine myself to true scientific fading. To some it may come as a revelation that non-uniformity in broadcast is neither our fault nor theirs.

I give you now a pen picture of what fading away means.

The Bugbear of Inconsistency.

Bitten by the unverses era e, lured into the hobby by sleep-denying friends, clutching at a straw to divert him from the trivial round, the common task, our hero, for the first time, decides to make himself or buy himself a wireless set. When the last screw has been driven home with a hammer, the neophyte arrives at the great evening, and he starts to tune.

On the third night, when he has altered all the connections, only to find he had a disc in the high tension all the time, he suddenly swoops in a cascade of cat calls on to a voice. It is broadcast, he has begun. Twiddle, twiddle, scratch and adjust, and at last he has it to his satisfaction, and he turns his head to call admiring relatives. As he turns, the signal dies, his hands try to knobs; but before he has touched a thing, behind, the signal at its pristine strength. He turns again, but the sounds have died to a whisper. Let us draw a veil over the rest: inconstancy is his bugbear, do what he may—

The R.R. sig he sets his heart upon
Starts fading, or it grows loud, and anon
And twist the various handles as he may,
The signal that he heard awhile is gone.

Nature to Blame.

He then sits down and writes to me, and this is the letter I send back:—

Dear Sirs,

" You complain of signals constantly varying in intensity. This is due to causes over which neither yourself nor ourselves have control. It is due, in fact, to a natural phenomenon, and has to do with the electrical constitution of the upper atmosphere. You must realize that some twenty miles above the earth's surface there is a layer of electrified and rarefied air which acts as a sort of reflector to wireless waves. It is almost as though a copper sheet were suspended about twenty miles above the earth's surface. Owing to natural causes, the reflecting power of this conductive sheet varies from time to time, just in the same way that a mirror reflects excellently at one moment, but when one breathes on it, becomes dim.

A Good Theory.

" You must imagine, therefore, when you are receiving at great distances that occasionally a sort of mist forms on this reflecting mirror, marring its reflecting properties, and, therefore, weakening your signal. This is, of course, only theory; but it is a good theory, inasmuch as there are very many other experimental corroborations which it is rather outside the sphere of this letter to go into now. The effect takes place at distances probably over 100 miles, and gets more and more marked as the distance is increased.

" This is not to say that fading cannot be noticed at shorter distances, but it is rarer. The only way we could possibly get over the effect would be to increase our power tenfold, in which case, I daresay most of the areas in

England would be fairly free from 'fading' as this effect is called. But we cannot under the terms of our licence do this.

" The effect is more apparent on short waves, and is probably more likely to occur at night. It is one of those natural phenomena that one is up against in the art of wireless, and one can give practically no advice as to how to overcome it. One can only be patient and hope that some discoveries may be made in the future which will, at any rate, minimize the effect.

Effects of Daylight.

" To sum up, you are indebted to this electrified layer for much of your signal; as the layer becomes more or less a good reflector, your signals become louder or weaker.

" It is very likely that during daylight the powers of reflection of the electrified layer may be considerably impaired, and signals will probably be consistently weaker during daylight.

" A last word of warning. An effect like fading may take place if your aerial is very loose; you are using intensive reaction and causes are acting to make your aerial sway.

" But this does not exhaust the subject, for there are those who write from the suburbs and complain of fading, especially during outside broadcasts.

" Now, they may be right, but no layers of electrification are responsible, no subtle reactions, and there are no manifestations of Nature to confound our efforts.

A Special Microphone.

" When we do an outside broadcast, we install at the place of outside broadcast one of our special microphones. This lies upon the centre of the stage footlights or is cushioned upon a white table-cloth covered in flowers or hung pendulous from the ornate ceiling of a ballroom. No engineer in even the most faultless evening dress is there to watch it; no illusion must be spoilt by apparent mechanical aids. Thus, our trouble, because the after-dinner speaker may lower his voice, shout suddenly or turn his head this way or that. The stage-manager produces his play for the few hundreds of his audience in his theatre; the jazz band plays for the fifty couples who dance in the ball-room.

" Thus must an engineer hang on to his controls, raising the weak passages or avoiding blasting, and it is the impossibility of keeping everything to a dead level that constitutes fading near by, a trouble that is only surmountable by making the receiver have a sufficient factor of safety.

Study the Receiving End.

" Fading! Yes, there is a last type of fading I haven't mentioned—the fading of interest among our listeners. I commend you to Mr. Keith a article where he advises you not to expect too much even in any age of miracles.

" The power of relay stations is 100 watts and soon a campaign starts for 500 watts (or, it sounds better as half a kilowatt.) We give you America and you want New Zealand. When the big station goes up, I know you will want the power of that doubled. It is good that it should be like this. Never let it be thought that we are not looking for improvements always. The stimulus of your wants will be the spur of our ambition. We can never satisfy you, but, because of this, don't be unreasonable, and if you think our programmes dull or our quality poor, study the receiving end as well.

" There should be no need for fading with the new high-powered station, and a factor of safety, mental and technical, at the receiving end.

Wireless in the Midlands.

(Continued from the previous page.)

a station repertory company having dithelial enthusiasm.

The Birmingham Station has also in its Assistant Director, Mr. Casey a baritone of exceptionally rich voice and extensive repertoire.

From Lions to "Lions."

There is also a newcomer to the Birmingham staff expected to increase greatly the interest in the Women's Hour and give an even wider appeal to the Children's Corner. This is Miss Barcroft, a composer of no mean ability, who numbers amongst her experiences quite thrilling adventures with lions in Kenya Colony—once known as British East Africa. Miss Barcroft will endeavour to interest the "lions" of the Midlands in the Birmingham Station.

Statistics in relation to broadcasting require careful handling, as it is often difficult to classify a town under any one particular sphere of influence; but it is worthy of note, and I think a fair index of the popularity of the Birmingham station, that in the month of January 6,000 licences were issued in the Birmingham postal area out of a total of 44,000 odd for the whole country. The more interesting are these figures when note is made of the fact that in the heart of Birmingham alone, about 37,000 people are still receiving the "dole" by reason of unemployment.

Black Country Blanks.

Despite the fact that the crystal area for the Birmingham Station includes such important manufacturing towns as Wolverhampton, Coventry, Walsall, Kidderminster, Stonebridge, Wednesbury, Dredwich, Dudley and Tamworth, and almost within crystal range such well-known places as Warwick, Leamington and Stratford-on-Avon, I was impressed by the large numbers of small dwelling houses, particularly in the Black Country, which are still without aerials. Whether this is due to the sheer poverty at the moment of the occupiers, or their lack of interest in songs and music, I have, as yet, been unable to ascertain; but similar houses around London and Manchester, and Glasgow, would have been 'anthered' with evidence of a wireless interest. To those who are aiming at bringing the benefits of broadcasting within the means of all, the blanks in the Black Country are disappointing.

Technical Difficulties.

The Birmingham Station has its champions in towns as distant as Leicester, Nottingham, Derby, Rugby, Stafford and Shrewsbury. These are anxious to know why "their station" has not been amongst those selected to provide programmes for the whole of Great Britain.

It is the regret of all concerned with the development of broadcasting that certain technical difficulties have stood in the way of the broadcasting of the Birmingham programmes—difficulties centred on the fact that part of the landline between Birmingham and London is buried under ground. These difficulties may be removed shortly, for the Post Office engineers are doing all they can to assist our own engineers in finding a solution to the problem.

Meanwhile, he who can tune to 425 metres and occasionally turn 93.5 M.F. is fortunate amongst his fellows.

I was discussing wireless with my young brother recently, writes Mr. F. Middlemiss, West Stanley, when he asked: "Do they have wireless on ships?"

"Yes," I replied.

"Well," he enquired, "how do they get their earth?"

Some of the Week's Music.

Described by Percy A. Scholes.

LONDON, MONDAY, 10th MARCH.
VERDI'S OPERA, "RIGOLETTO."

RIGOLETTO is one of Verdi's earlier works. It was produced in 1851, and its composer died just half a century later. It is in the older, daemonic style (i.e., with set songs, etc.), and is very Italian in its type of tune and in its vivid expression of passion. The plot is based upon a play of Victor Hugo, *Le Roi Carcasse*.

ACT I. A PALACE. *The Duke of Mantua* (Tenor) is a Don Juan, from whose attentions no woman is safe. He is indebted for help in his schemes to his jester, *Rigoletto* (Baritone). The courtiers naturally have much reason to hate both Duke and Jester. *Count Ceprano* (Baritone) is especially bitter, for the Countess has become an object of the Duke's attentions. *Count Monterone* (Bass) is equally angry on account of the wrongs done to his daughter. Rigoletto jeers at Monterone, who utters a parent's curse upon both Duke and Jester. The Duke is merely amused, but the Jester is terrified.

ACT II. A STREET. Intimidated by the curse, Rigoletto makes a compact with a bravo, *Sparafucile* (Baritone), whose help is henceforth to be at his service in case of need. Rigoletto now goes into his garden, where he finds his daughter *Gilda* (Soprano). She conceals from him the fact that a young man is hidden in the premises. The young man (though she does not know it) is the Duke. The courtiers, by a ruse, abduct Gilda and carry her off to the palace. Rigoletto discovers what has happened, and, with horror, recalls the curse.

ACT III. THE PALACE. Rigoletto rushes to the palace. His daughter is with the Duke. In distress, he attempts to get into the room. The courtiers, who hate him, and do not altogether understand what is happening, prevent his doing so. At last, the daughter, released, dashes out. Rigoletto's fears are but too well founded. The curse has fallen. Monterone enters. Rigoletto swears vengeance on the Duke.

ACT IV. A HOUSE IN A BY-STREET. Rigoletto engages the bravo, Sparafucile, to kill the first person who comes, whoever this may be. He draws the Duke to the house, using Sparafucile's sister, *Maddalena* (Mezzo-Soprano), as the attraction. Gilda hears, and, though warned by the Duke, makes up her mind to give her life to save his. Putting herself in the Duke's place, she causes Sparafucile to stab her. Rigoletto enters to receive the Duke's body, in a sack. To his astonishment he hears the Duke singing in the room above. He opens the sack and finds—his daughter.

CARDIFF, SUNDAY, 9th MARCH.
BEETHOVEN'S OVERTURE, LEONORA (No. 3).

Beethoven wrote at different times four different Overtures to his one Opera, *Fidelio* (at first called *Leonora*). This "No. 3" (so-called) is generally reckoned the best.

It is a very long Overture, fully developed on symphonic lines—too extended for use as a theatre overture, perhaps, but a magnificent concert piece. There is a short *Slow Introduction*, and then the main body of the Overture begins. There are two chief Tunes (a) the very soft and mysteriously opening one (string alone), which immediately follows the Introduction, and (b) a smoothly flowing one, given to Violin (joined at octaves below by Violin).

Note the dramatic interruption of the

Trumpet call in the middle of the Overture (generally given by a trumpeter out of sight, behind the orchestra); this represents a moment in the play where the Minister of State appears—just in time to save the hero from execution.

LONDON, THURSDAY, 13th MARCH.
JOHN IRELAND'S SECOND SONATA FOR
VIOLIN AND PIANO (in A Minor).

There are three Movements.

I. Quick. This has a good deal of subject matter and a great range of emotion. There are five Tunes, or "Subjects," and they range from the tragic to the pathetic, the quietly happy, the exultant. The Movement opens with the statement of these tunes; then there is a very short "development" of some of this material; finally the Tunes are repeated, with some changes, and a short "Coda," or closing passage, rounds off the movement. The parts for the Violin and Piano are splendidly contrasted, and the harmonies often striking.

II. Slow. This might almost be called a Song for Violin with accompaniment for Piano—but an accompaniment of real interest, and not a mere support.

The moods, as in the previous movement, vary. There is a quiet sadness in some parts, an approach to passion in others, and a serene consolation in still others. The Movement is as the tensing of a thoughtful and feeling poet—now one aspect of life, and now another, mastering him.

III. At a medium speed. This begins with threatenings of tragedy, and then suddenly goes off into a transport of joy. Many of the Tunes in this movement are very lovable, and linger in the memory after the piece is played and put away.

MANCHESTER, FRIDAY, 14th MARCH.
MENDELSSOHN'S ITALIAN SYMPHONY.

Mendelssohn wrote this when he was travelling in Italy, in 1831, when he had just come of age. He wrote home to his sisters: "It will be the gayest thing I have yet done."

There are four Movements:—

I. Quick and active. This is full of youthful joy. It was written in Rome.

II. Rather slowly, yet with a steady pace. This movement is often called *The Pilgrim's March*, but Mendelssohn never gave it the name. It used to be one of the most popular pieces in the orchestral repertory, and British audiences used often to hold up the progress of the Symphony by insisting upon an encore. It was written at Naples.

III. At a moderately quick rate. This takes the place of the usual Minuet-Trio-Minuet (really First Minuet-Second Minuet-First Minuet again) in the earlier Symphonies. It is in the three-beats-in-a-bar rhythm of a Minuet, and has much of the light-handed dance feeling.

IV. Very quick. This was written in Rome, and perhaps represents the spirit of the Mid-Lent Carnival, of which Mendelssohn was a spectator there. There are three chief Tunes in it: I. a Saltarello; II. another Saltarello; and III. a Tarantella. Both Saltarello and Tarantella are traditional Italian popular dances, the music of the Saltarello having (as the name suggests) a suggestion of a jump running through it, and that of Tarantella being more flowing.

For a long time this Symphony retained its popularity, but of late years it has been almost crowded out of the repertory and many older concert-goers will be glad of another opportunity of hearing it.

GREAT NEW NOVEL

"THE LORING MYSTERY"

By

JEFFERY FARNOL

Author of
"THE BROAD HIGHWAY,"
"THE AMATEUR GENTLEMAN,"

STARTS IN NEXT WEEK'S TIT-BITS

The new story is another "Broad Highway," only—and this we have no hesitation in saying—it is even better. It is more mature, with the more certain touch of long practice and gathered experience. It has the same romantic setting—the same green lanes, picturesque taverns, and gallant company—the brave man and lovely woman; the same quaintly-conceived tinkers, gypsies, blacksmiths, tramps.

And, above all, it is a thrilling, heart-gripping story of love that will hold the interest of all from the first word to the last.

There are millions waiting for Jeffery Farnol's new novel. Those who read it in *Tit-Bits* will lead the field, for the story will not appear in book form until it has run its full course between the green covers of *Tit-Bits*.

To make sure of getting next week's *Tit-Bits*, ask your newsagent to deliver a copy Monday.

PEOPLE IN THE PROGRAMMES—GOSSIP ABOUT ARTISTES & OTHERS

MISS MARJORIE BOWEN.



MISS MARJORIE BOWEN.

AMONG the most interesting of the calls given from London are those of Miss Marjorie Bowen, during the Woman's Hour. Miss Bowen is noted for her eloquence when broadcasting, but it is not generally known that she has selected a good deal on her favourite subject—history. Miss Bowen began to write when quite a young girl, her first novel, "The Viper of Milan," having been published when she was in her teens. Her abilities were quickly recognised, not only in this country but also on the Continent, for she was only twenty-two when she received the Hon. Diploma of Literature at Leyden University.

Might Have Been a Painter.

MISS BOWEN lived for some time in Italy, and her knowledge of the language and the country is probably unique among English writers. Although she has published some dozens of novels, and hundreds of poems, short stories and articles, she has managed to crowd many other interests into her busy life.

One of the chief of these is painting, and had she not chosen literature in preference, there is no doubt that she could have become quite famous as an artist.

Promised to Broadcast.

AN event of especial importance next week will be the broadcasting of the Prime Minister's speech at Cardiff on Friday, March 14th. Mr. Ramsay MacDonald takes a keen interest in wireless, and he thinks that broadcasting has "a boundless future of usefulness." It is as an educative force that he hopes to see wireless become more widespread, for he has never made any secret of the fact that he believes that in better education lies the solving of many of our most urgent social problems.

At one time Mr. Ramsay MacDonald's chief ambition was to become a school teacher.

A Slip of the Tongue.

ABARITONE singer well-known in Scotland is Mr. Lewis Cowie, who is often heard at Glasgow Station. Mr. Cowie tells me that once when he was singing that famous old song "Excell-sor" as a duet with a well-known tenor, the latter forgot his words and made a slip of the tongue that caused roars of laughter. All was going well until suddenly he sang: "Oh stay, oh stay, the maiden said, and rest thy weary feet upon my breast."

The slip so amused both singers and audience that a re-start was necessary.

A Slight Misunderstanding.

MISTER COWIE relates a funny story about an Irish girl who applied for a position in England.

"So you are just from Ireland, are you?" asked her prospective employer. "Were you trained across the water?"

"Sure, I was not, indeed!" replied the girl. "I was shipped across."

A Question of Character.

MISS CHRISTINE CROWE ("Auntie Chris") is a favourite with the children at Aberdeen, and, to use their own words, "they love to hear her laugh." She is well known as a story-teller, and the following is one of her best:

The captain of a West Highland boat was short of hands. Two men presented themselves. One had an excellent character, and was immediately engaged. The other was not so fortunate. He could get nobody to vouch for his honesty or worth. After a while, the captain, finding no other suitable applicant, took him on.

"But," said he, "I believe in every man whom I engage having a satisfactory character."

A few days later, the two men were busy washing the deck. One of them, in leaning over the side to refill his bucket, lost his balance and disappeared into the sea. The other immediately went up to the captain.

"Ye were sayin' the other day that ye aye wanted a character," he said. "Do ye mind you chap ye took on wi' sic a gude character that ye never spared a question at him?"

"Well, what about him?" asked the captain.

"The fell'a awa' wi' yin o' yer buckets," was the triumphant reply.

Quite Logical.

MISS AMY CARTER, contralto, who is a popular artiste at Birmingham Station, is fond of telling the following story: A teacher of music in one of the schools in the North desired to impress the pupils with the meaning of the signs "f" and "ff" in a song they were about to sing. After explaining that "f" meant forte, he said:

"Now, children, if 'f'

means forte, what does 'ff' mean?"

Silence reigned for a moment and then he was astonished to hear a bright little fellow shout:

"Eighty!"

Nothing Doing.

MR. ROBERT MURRAY, the versatile entertainer at Glasgow, tells me an amusing story of a Scotswoman's witty method of dealing with a man on the look-out for a "tip."

One day a doorman called at the house of a labourer and touched his cap to the woman who opened the door.

"Good morning, mum," he said. "I'm the man that empties the bucket."

"Are you really?" she replied. "And I'm the woman that fills it. Good morning!"

An Impromptu Recital.

MISS ETHEL FAIRBURN, soprano, who sang at the opening of Cardiff Station and has become a favourite there since, once had an interesting experience in Wales.

While visiting Bettws-y-Coed, she was descending a hillside and singing, as she delights to do in the open country, when a blind harpist who was playing his instrument at the foot of the hill immediately picked up the key and the air she was singing, and the song was concluded to harp accompaniment, much to the gratification of harpist and singer, who both enjoyed the incident.

Vocalist and Motorist.



MR. EDWARD HILL.

ASINGER much in request at Bournemouth Station is Mr. Edward Hill, whose rich baritone voice is heard to great advantage in duets with Miss Marjorie Soon, contralto. While admitting that singing is his favourite occupation, Mr. Hill tells me that, apart from his professional work, he likes nothing better than motoring. Unlike many motorists, he prefers the by-ways to the highways, and, in consequence, his knowledge of the less frequented parts of the country—especially in Cornwall, Devonshire and Wales—is remarkable.

The Reason Why.

MR. HILL relates a good story about a motorist who was new to the London streets and was much annoyed at being held up by the traffic.

After waiting in one spot for a long time, he called out to a policeman: "I say, constable, when are these vehicles in front of me going to move on? I've been here twenty minutes already."

"I daresay you have, sir," answered the policeman; "you see, you've drawn up on a cab rank!"

A "Trunk" Call.

MOST of us remember the curious qualms we felt on the very first occasion when we were obliged to use a telephone. Miss Betty L. Grimwood, the "Auntie Betty" at Cardiff, tells me of an amusing lapse of memory that she experienced on a similar occasion.

I wanted a long-distance telephone call," she says. "Now, I knew that when you did this you had to ask for a special line. What was it you asked for? Could I remember? No. Suddenly I was struck with a great idea. It's something you take away with you. So with a sigh of relief I lifted the telephone receiver and breathed, 'Portmanteau, please!'"

No Need For Alarm.



MISS ISOBEL SHAW.

AN artiste who has made a specialty of singing the songs of French composers is Miss Isobel Shaw, of Aberdeen. She has a fine soprano voice which is much appreciated by listeners. Miss Shaw relates a good story concerning an amateur vocalist who would persist in trying to sing at a social gathering.

"What does he call that?" inquired a disgusted guest.

"'The Tempest,'" answered another.

"Don't be alarmed," said an old sea-captain who was present. "That's no tempest; it's only a squall, and it will soon be over."

To ensure getting the "Radio Times" regularly, ask your newsagent to deliver your copy every Friday.

WIRELESS PROGRAMME—SUNDAY, March 9th.

The letters "R.B." printed in italics in these programmes signify a simultaneous broadcast from the station mentioned.

LONDON.

10.00— <i>Big Ben Time Signal.</i>	
THE WIRELESS ORCHESTRA.	
Overture, "Boulevard,"	Schubert
The Flute, 1. Harcourt,	French
2. Humoresque,	Tchaikovsky
SOPHIE RUEWALD (Soprano),	French
Amore,	French
The Moon Represents,	French
SOLO— <i>POLAND CROW FIELD</i> will tell the Story of "The Man Who Was the Wolf."	French
Orchestra.	
Selection, "The Magusingers of Novgorod,"	Wagner-Tchaik.
Streetside in Cologne,"	Wagner-Tchaik.
JOHN BUNNEDY (Tenor),	French
Bear Me, Sir Wind and Waves,"	Handel, arr. J.E. (1)
The Old Shepherd's Song,	Fisher (1)
Sophie, P. whist,	French
Vivaldi d'Arte," (C. Tisch) (2)	French
Beyond the Dawn,"	Handel (3)
Orchestra.	
Hymn to St. George,	Gounod
(Solo Tisch, S. R. Whist, Kelly)	Gounod
Music & Concert, "Music of Love,"	Fuchs
C. Edward Cowper, "The Man Who Did Not Sing,"	Tom Kipling
Within These Sacred Bowes," (The Magic Flute)"	Mozart (3)
Sum of Mine,"	Walford
Swedish Coronation March,	Sibelius
Announcer: I. S. Douglas.	
5.00-5.30— CHILDREN'S CORNER. S.B. from Cardiff.	
5.30-5.45— <i>Big Ben Time Signal.</i>	
THE SALVATION ARMY.	
5.45—Opening Hymn, "I Heard the Voice of Jesus Say" (A. and M. 257) (Verses 1-2-4-5) (Tune, "Abide"),	
5.45—Address by MR. GENERAL BOOTH.	
5.47—Vocal Solo, "How Sweet the Name of Jesus Sounds,"	Schubert, MAJOR BERNARD BOOTH.
5.48—March, "Vesper Hymn" (Tune, "Jesus, Lover of My Soul"),	
Our International Star Band, BANDMASTER U. FULLER,	
5.50—Concerto Solo, "O Lord in Our Land,"	
Violin, BANDMASTER BURGESS,	
5.50—Selection, "Guide Me, O Thou Great Jehovah,"	
5.50—Mosaic from General Booth (read by MAJOR BERNARD BOOTH).	
5.50—Selection, "Rockingham" (Elgar, "When I Survey the Wondrous Cross").	
5.57—Chorus, "Praise Ye the Lord,"	(Vocal Party)
5.58—Selection, "Come from Haydn's "Creation,"	
5.58—THE LAMHAM ORCHESTRA,	
Conductor of Music, J. C. VAN DER NESTEN,	
Violin, G. S. COOPER,	
Violin, FREDERIC LYKE (Infor.),	
Violin, Mountain Lovers,"	Orchestra
Selection, "La Tasse,"	French
TIME ADVERT. FROM GREENWICH AND GENERAL NEWS BULLETIN. S.B. in all Stations except Cardiff.	
Local News and Weather Forecast.	
5.58—Oboe,	
The Deer Wedding,"	Handel
Sonata, "Spring's Awakening,"	Grieg
Violin, "Farewell to the Forest Lake,"	Grieg
Ode of All the World,"	Handel-Purcell
Love, Could I Only Tell Thee,"	Capell
Selection, "La Bohème,"	French
10.45—Close down.	French
Announcer: C. A. Lewis.	

BIRMINGHAM.

2.00-2.15— STATION PIANO QUINTETTE.	
Under the direction of FRANK CANTELL.	
Song, "Woman Thou Art Faithful,"	Ross
FRANK CANTELL (Vlns.) and LEONARD DENNIS (Cello),	
Four, "Softly Asleep," (Samson and Delilah),	Saint-Saëns
HAROLD CASEY (Violone),	
The Lute Player,"	Schubert
I Will Not Cease,"	Schubert
I Love You,"	Grieg
SELECTIONS QUARTETTE,	
Overture for Strings in A Major, Op. 29,	Schubert
1st Allegro from Concerto No. 1 (Adagio), Op. 10,	Beethoven
GLADYS WHITFIELD (Soprano),	
I Know That My Redeemer Lives,"	Handel
Turn Unto Me,"	Handel
I Will Lift Mine Eyes,"	Dvorak
STATION PIANO TRIO,	
Announcer and Final Joke, Tris in D Major.,	Handel-Purcell
Violin Solo, Sarabande and Bourée from Suite in C Major,	French
Glady's Whitfield,	
Home Thoughts,"	British
To the Nightingale,"	Purcell
Chorus Song,"	Quilter
Suite, Four Characteristic Waltzes (Cologne-Taylor) (3),	Quilter
"The Last Player,"	Peel
Sea Fever,"	French
Chorus,	
Air, "Londonderry Air,"	Traditional Irish
Announcer: Harold Casey,	
5.00-5.30— CHILDREN'S CORNER. S.B. from Cardiff.	

8.30—	STATION REPERTORY CHOIR.
Hymn, "Forty Days and Forty Nights" (A. and M. 255),	Antonini, "Cast Thy Burden Upon the Lord" ("Elijah")
Antonini, "Cast Thy Burden Upon the Lord" ("Elijah")	Handel (1)
THE REV. J. W. MORLEY, St. John's Church, Ladywood, Religious Address,	JOHN VAN ZYL, (Baritone).
"Hear Me, Ye Winds and Waves,"	Handel (1)
O.S.—	STATION ORCHESTRA.
under the direction of JOSEPH LEWIS,	Mendelssohn (1)
Overture, "Midsummer," Op. 21,	Mendelssohn
First Movement from the "Pathétique" Symphony,	Tchaikovsky
John Van Zyl,	John Van Zyl.
"Out of the Night,"	Liszt (2)
Mjell White Young," ("The Persian Garden,"	Liszt (2)
Orchestra.	Liszt (2)
Saint-Saëns, "Sylvain Novel,"	Flagey (1)
(a) "Beauty's Heart," (b) "Sister Bessie," (c) "The Pad of the Nations," (d) "Cupid's Carnival,"	Flagey (1)
10.45—NEWS. S.B. from London.	
Local News and Weather Forecast.	
10.50—Close down.	
Announcer: Percy Edgar.	

BOURNEMOUTH.

5.00-5.30—	ORGAN RECITAL.
From Bournemouth Arcade.	
Organist: ARTHUR MARSTON, A.R.C.O.	
— March: Moderate,	Lampe
First Organ Sonata,	Brahms
(a) Allegro ma non troppo, (b) Andante, (c) Allegro con	Flame
Choral and Fugue from St. John's.	Gounod
Overture, "Marie,"	Flame
Final from Sonata in F Sharp,	Krausberger
5.00-5.30— CHILDREN'S CORNER. S.B. from Cardiff.	
5.30—	THE "GBM" TRIO.
Elegy,"	Asbury
8.30—ST. MARY'S PRESBYTERIAN CHURCH CHOIR.	
11.00, "All Creatures of our God and King," (Bach) (2)	Asbury
Hymn, "This Will I Love" (Clarendon Presbyterian Hymnal No. 229) (Tune, "Stella"), (a) Old English Melody	Asbury
9.15—THE REV. HOWARD WILFRED EXNER, B.A.,	
St. Mark's Presbyterian Church, Religious Address.	
9.15—	Clarke
Hymn, "Lead, Kindly Light" (Tune, "Stella") (Presbyterian Hymnal No. 440)	Flame
9.15—REGINALD S. MOUNT (Solo Violin)	Flame
Finals from Concerto,	Asbury
9.15—The "GBM" Trio,	Asbury
1st Movement from Trio in D Minor,	Asbury
9.15—	Clarke
Hymn, "Once Long Ago" (Russian Folk Melody)	played Tchaikovsky (1)
Solo and Chorus, "Lord God of Abraham," (b) Elijah,"	Mendelssohn (1)
"Cast Thy Burden on the Lord," ("Elijah")	Mendelssohn (1)
9.00—THOMAS E. ILLINGWORTH (Solo Cello), Variations,	Coldrey-Taylor
9.15—The "GBM" Trio,	Asbury
Selection, "Tambourine,"	Wagner
10.45—NEWS. S.B. from London.	
Local News and Weather Forecast.	
10.50—Close down.	
Announcer: Stanley Day.	

CARDIFF.

3.30-4.30—	ORGAN RECITAL.
played from	
The Cardiff Cinema.	
5.00-5.30— CHILDREN'S CORNER. S.B. in all Stations.	
5.10—PUATH PRESBYTERIAN CHURCH CHOIR.	
Hymn, "Whom Morning Glories See" (Tune, "Laudes Domini")	
Antonini, "O Saviour of the World,"	Ward
THE REV. W. L. ROBERTS, B.A., Heath Presbyterian Church, Religious Address.	
Hymn, "Abide Among Us With Thy Grace" (Tune, "Jesu")	Asbury
Symphony Concert No. 16,	
"PIUS XII" PROGRAMME.	
(For Full Orchestra.)	
THE STATION SYMPHONY ORCHESTRA.	
Conductor: OLIVER RAYMOND (Nos. II, III, IV, and V).	
I. Festal March from "Tannhäuser,"	Wagner
II. Overture, "Lesnaya, No. 2,"	Tchaikovsky
III. Polonaise—"The Masterpiece,"	Wagner
IV. Allegro Siciliano,"	Saint-Saëns
(a) "Reverie"; (b) "March Militaire,"	
V. Lully's "Love Death" ("Tristan und Isolde") (Tune, "Wagner")	Wagner
VI. A Welsh Requiem,"	Ed. German (2)
The National Anthem.	
10.20—Close down.	
Announcer: A. Curtis H. Smith.	

WAVE-LENGTHS AND CALL SIGNS.

LONDON (2LO)	-	-	365 Metres
ABERDEEN (2BD)	-	■■■	o
BIRMINGHAM (6IT)	-	■■■	o
BOURNEMOUTH (6BM)	-	■■■	o
CARDIFF (SWA)	-	■■■	o
GLASGOW (SSC)	-	■■■	o
MANCHESTER (2ZY)	-	■■■	o
NEWCASTLE (6NO)	-	■■■	o
SHEFFIELD (6SL)	-	■■■	o

MANCHESTER.

2.0-3.0—	Wagner Symphony Concert.
	THE "ZY" AUGMENTED ORCHESTRA.
	Conducted by
	PERCY PITTS, Musical Director of the R.N.O.C.
	Overture, "Grand Finale Spill," ("Parsifal").
	"Elan's Dream," ("Lohengrin").
	GERTRUD JOHNSON
	Prélude, Death Soton ("Tristan and Isolde").
	Soprano Song ("The Valkyrie").
	WALTER WILDOFF.
	Siegfried's Oath by the Fire ("Siegfried").
	Exult. Antl. V. Lohengrin,".
	Gretchen Jobstone and Walter Wildoff.
	Devotional Music.
3.0-3.30—	CHILDREN'S CORNER. S.B. from Cardiff.
3.0—	SIDNEY G. ROSEY, Talk to Young People.
3.30—	THE REV. GEORGE R. DAVIES, of the Foden Memorial Congregational Church, Chorlton-cum-Hardy, Sunday Evening Talk.
4.0—	CENTRAL HALL CHOIR.
	Conductor: TOM CHASE.
	Organist: JOHN DUKE.
	Antonini, "God is a Spirit," (Sibelius) (2).
	Chorus, "And We Sing," (Handel).
	Concerto, "Nimrod," (Elgar).
	Antonini, "O Saviour of the World," (Sir John Goss).
	Antonini, "I Walk King of the Merse," (Elgar).
	Antonini, "The Watchman," (Elgar).
	Orchestral, Tom Chase.
	The "Kyrie Eleison and Gloria" (from 12th Mass) ... Mozart.
	Orchestral "The Legend Beautiful" (Orval Stocchato).
10.0—	NWEL, S.B. from London.
	Local News and Weather Forecast.
10.15—	Antonini, "Lead, Kindly Light" ... D. Pugh Evans Solo.
	"Sister," (Doris Fisher).
	Antonini, "Glory to Thee" ... Gounod.
	Antonini, "Lead, Thou Owe Despaired Jesus" (Tune, Austria).
	"Crown Him with Many Crowns" (Tune, Dimiterius).
10.30—	Close down.
	Announcer: Victor Smythe.
NEWCASTLE.	
SIGMUND OPPELNIUS'S QUARTETTE.	
Theme and Variations from Sonatas for Piano and Violin	
3.10—	HILDA ROOD (Contralto).
	"The Chariots of the Lord," (Elgar).
	"Love's Hurricane," (Elgar).
3.20—	HARRY FRATER (Bass).
	"Why Do the Nations?" (Handel).
3.30—	ERNEST SHARP (Solo Violin).
	Violin and Adagio from Concerto.
3.40—	LEONORA HOWE (Soprano).
	"Kingfisher of June," (Sibelius) (2).
	"Love is Mine," (Sibelius) (2).
3.50—	Quartette in E Flat Major, 1st Movement, .. Brecknell.
	Harry Frater.
4.0—	The "Cello," (Elgar).
	Love Divine," (Elgar).
4.15—	Hilda Rood.
	"Easter Hymn," (Bridge).
	"The Sun Never Sets," (Elgar).
4.25—	SIGMUND OPPELNIUS (Solo Piano).
	Andante Spianato and Polonaise, Op. 22.
4.40—	Legende, How.
	"Life and Death," (Colridge-Taylor).
	"A Birthday," (Colridge-Taylor).
4.50—	Quartette.
	Quartette in E Flat Major, 2nd and 3rd Movements.
5.00—	DANCE OF THE THIRTY DURHAM LIGHT INFANTRY.
	Hymn, "Eriwedd."
	MUSICIAN J. CARTER (Solo Corset).
	"Nearer, My God, to Thee," (Carey) (2).
5.10—	JASIE DOWNING (Coronet).
	Hymn, "Song of Zion," (Bridge).
5.20—	THE REV. PHILIP ASHTON, Religious Address.
	King David.
5.30—	Hymn, "Glorious Things of These are Spoken."
5.45—	Band.
5.50—	Lento.
5.50-5.30—	CHILDREN'S CORNER. S.B. from Cardiff.
5.50—	DANCE OF THE THIRTY DURHAM LIGHT INFANTRY.
	Hymn, "Eriwedd."
	MUSICIAN J. MCGINTY (Solo Trombone).
	"Lord Be Your Am," (General) (2).
6.00—	Band.
	First Indian Love Lutes.
	Temple Bells.
	Love, True Love.
	"Remember Song,"
	"All I Want,"
6.30—	Elgar Drawing.
	"The Songbird's Awakening," (Tichborne) (2).
	"A Summer Night," (Tichborne) (2).
6.45—	FIELD-CARLTON (Baritone).
	Have You Seen With Due Care," (Tichborne) (2).
	"I'm a Lady by Nature," (Tichborne) (2).
10.0—	SNEWS, S.B. from London.
	Local News and Weather Forecast.
10.10—	"Lord of Hosts," (Lord Carlisle).
	"Mary Callaghan and Me," (Lord Carlisle).
10.20—	Band.
	"Old Comrades," (Lord Carlisle).
10.25—	Close down.
	Announcer: R. L. Price.

A number against a musical item indicates the name of its publisher. A key list of publishers will be found on page 427.

"EVERYONE'S MENTAL TOOL-BOX."

Jerome K. Jerome Tells Readers How To Make The Best Use of Their Brains.

ONE of the most gratifying features of the day is the increasing popularity of Pelmanism. Well-known men and women advocate and advise it. Thousands of readers are practising it. All over the country people of every type and occupation are increasing their efficiency and consequently their earning power by this means, and are training their minds and developing their intellectual and business powers with the aid of the wonderful "Little Grey Books" issued by the Pelman Institute.

How To Use Your Mental Faculties.

This excellent sign of the times promises well for the future, for, as that accomplished writer Jerome K. Jerome points out, Pelmanism should be the basis of all education.

"Every youngster," he writes, "comes into this world provided with a fine box of tools necessary for his life's work. It is neatly packed, and nothing is missing. He carries it in his brain. It contains CONCENTRATION, OBSERVATION, IMAGINATION (the mother of enterprise), ORGANISATION—quite a number of useful tools, mostly ending in 'tion.' And, above all, MEMORY.

Properly employed, they will enable him to accomplish any task to which Fate may call him. But nobody shows him how to use them.

Making Full Use of the Brain.

"Oh, that's all right," we say, "he'll find out in time." So he does, with luck, towards the end of middle life, after years of bungling and despair. But by a little help in the beginning, by the help of Pelmanism, by showing him

- how to employ and become deaf in the use of his brain;
- how to observe truly and perceive rapidly;
- how to concentrate his attention and arrange his ideas;
- how to think and how to reason;
- above all, how to remember,

he might have been a useful member of society from the beginning.

"As it is, he has to trust to hearing about Pelmanism. I am more than willing to help in making it known to him. He ought to have been taught it when he was young. The sooner he takes it up the better for him and the country. It won't turn him into a genius. It won't put more brain into him than the Lord gave him. But—

"it will enable him to make full use of the brain he has been given."

"Most of us at present are wasting it."

Remarkable Reports.

Reports received daily from readers who have taken up Pelmanism prove the soundness of Jerome K. Jerome's advice. Here are a few extracts taken at random:

from letters received by the Pelman Institute describing the benefits received as a result of practising this wonderful system.

A Merchant states that Pelmanism has enabled him to rise from an employee to employer.

A Head-Mistress writes that it has increased her Self-Confidence, strengthened her Memory and gained for her a promotion to a headship.

A Clergyman states that his preaching has improved.

A Journalist reports a "substantial increase of salary" and a vast improvement in Concentration, Memory and Mental Abilities.



JEROME K. JEROME.

The distinguished author, who recommends Pelmanism to everyone who wishes to make the fullest use of his or her brain.

A Clerk states that he has been promoted three times.

An Artist writes: "The results are wonderful. What I have gained could never be called costly even had I paid £50."

A Woodworker reports an increase of 50% in wages.

A Shop Assistant reports a great improvement in Observation, Memory, Concentration and "all-round efficiency."

An Assistant Cashier states that he has secured a better position.

A Manager reports an increase of 200% in salary.

Thousands of similar cases could be mentioned. More will be found in the copy of "The Efficient Mind," which will be sent you gratis and post free on writing for it to-day.

This book contains articles by some of the most celebrated people of the day, and shows you how you can enrol for a Course of Pelmanism on the most convenient terms. It will be posted free to any address on application to the Pelman Institute, 95, Pelman House, Bloomsbury Street, London, W.C.I.

I HAVE NOT FAILED ONCE.

Company Secretary's Tribute to Pelmanism.

An interesting letter has been received from a Company Secretary who, as a result of applying Pelman principles, has passed no fewer than eight Commercial Examinations, and has not failed on a single occasion. He writes—

"I am an old Pelman student, having taken the 'Mind and Memory' Course in 1919-20, and being one of those courses of study, the results of which are manifested at least as well as earlier dates. I take it you do not mind a testimonial after nearly four years."

"My primary reason for taking the Course was that in 1919, whilst with the Army of Occupation in Germany, I desired to give my mind a little more exercise than that imparted by clerical work following the line of dull routine. I got my desire in full plus other benefits.

- 1st. An increased power of concentration and confidence in my abilities.
- 2nd. The need for an aim in life definitely fixed on my mind.

This fortified I turned my attention in 1920 to Commercial Examinations, and am pleased to say I have not failed in one I have taken during the time I have been studying.

Eight Examinations Passed.

"The Examinations I have passed (not written) are—

Chamber of Commerce Advanced Book-keeping and Accounts (Distinction); Royal Society of Arts Advanced Book-keeping; Royal Society of Arts Accounting; Royal Society of Arts Economic Theory; Royal Society of Arts Commercial Law; Royal Society of Arts Company Law; Chartered Institute of Secretaries; International Charters; Institute of Secretaries; Trial.

"In addition to passing the Exams. in Company Law, I have won the Society's Silver Medal for that subject.

"In working for these Boards, I have applied Pelman methods strengthened by a 'Pelman acquired' power of concentration and desire to reach my definite aim (also a Pelman achievement, i.e., to become a qualified Company Secretary).

"Candidly, the result would not have been obtained had I not organized my mind under your tuition and taken advantage of the benefits accruing therefrom.

"I have written rather a long letter, but even now it does not give to the fullest degree the measure of gratitude I should like to express."

"The Efficient Mind."

The New Pelmanism is fully explained in "The Efficient Mind," the fourth edition of which is now ready.

A free copy of this book will be sent to everyone who posts the sum in postage to the Pelman Institute, 95, Pelman House, Bloomsbury Street, London, W.C.I.

POST THIS FREE COUPON TO-DAY.

To THE PELMAN INSTITUTE,

95, Pelman House,
Bloomsbury Street,
London, W.C.I.

Say—Please send me, gratis and post free, a copy of "The Efficient Mind," with full particulars of the New Pelman Course.

Name.....

Address.....

If coupon is sent in an OPEN envelope, it only needs 3d. stamp. All correspondence is confidential.

Thought

Thought is universal! Universal association of ideas enables you to know of an offering, responsive to others—WIRELESS. And in enthusiastic search for knowledge near thoughts are confused, the many radio books confuse you, you must use method and need authoritative advice. The Wireless Press Ltd., pioneer publishers, can help you. For instance:

The majority of popular books are but elementary for the progressive wireless man in the early stages. Such should set "The Home Constructor's Wireless Guide," by W. James, price 1s. 6d. Post free 3s. 9d.



Practical Wireless Sets for All—Home Construction Made Easy, by Percy W. Harris, 1s. 6d. net. Post free 1s. 9d. No previous knowledge is necessary to construct the reliable, efficient and thoroughly tested receiving sets described in this book.



Wireless Telegraphy—A Simplified Explanation, by R. D. Bangay. Price 2s. 6d. net. Post free 2s. 9d. DeLuxe edition, price 3s. net. Post free 3s. 3d.



Mr. Bangay caters for many persons who possess no training in apparatus yet have no technical knowledge. Sufficient general information is given to enable "amateurs" to acquire an intelligent interest in the apparatus they use without encroaching upon the vast field of technical matters involved.

The Construction of Amateur Valve Stations, by Alex L. M. Douglas. Price 1s. 6d. Post free 1s. 7d. New circuits and the very latest possible designs for excellent broadcast receivers are given in this book, the circuits being so arranged that they conform to the Postmaster-General's regulations regarding reception.

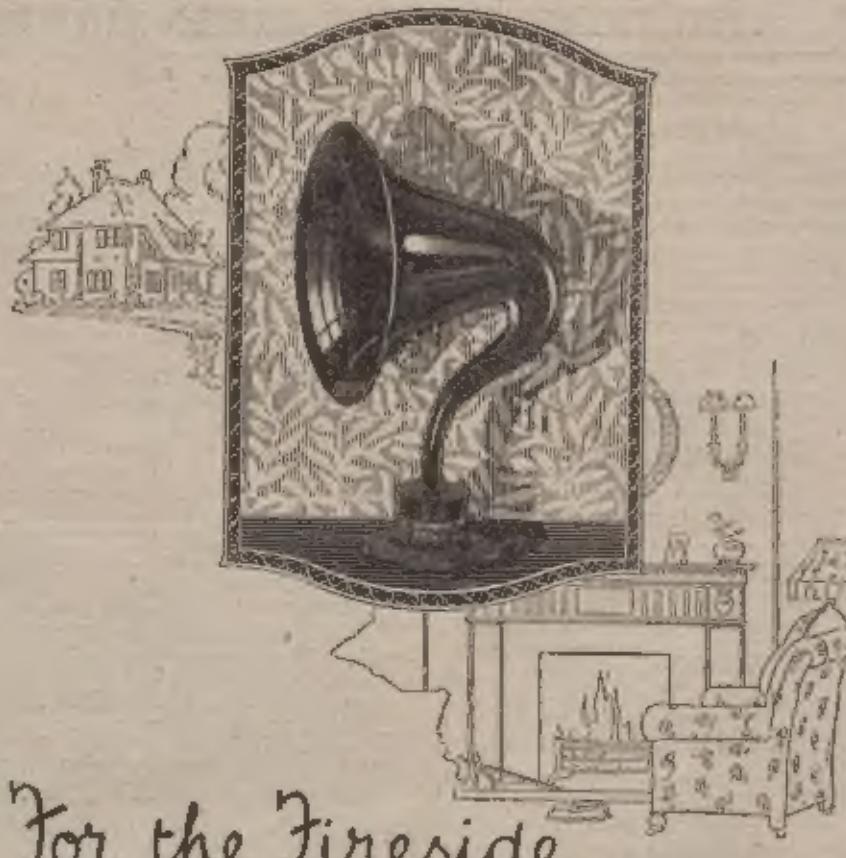
Crystal Receivers for Broadcast Reception, by Percy W. Harris. Price 1s. 6d. Post free 1s. 7d. The purpose of this book is to explain in popular language the principles upon which all crystal receivers are designed. Why not try it?

The Radio Experimenters Handbook, Part I, by Philip R. Courtney. Price 3s. 9d. Post free 3s. 11d. The aim of the true wireless experimenter should be to design his set to meet his own requirements. Part I deals with the general principles underlying the design of radio receiving equipment.

London: The Wireless Press Ltd.
(Dept. R.T.), 12-13, Henrietta St.

The Radio Experimenters Handbook, Part II, by Philip R. Courtney. Price 3s. 9d. Post free 3s. 11d. The aim of the true wireless experimenter should be to design his set to meet his own requirements. Part II deals with the general principles underlying the design of radio receiving equipment.

London: The Wireless Press Ltd.
(Dept. R.T.), 12-13, Henrietta St.



For the Fireside

FOR fireside use in a small room there is no Loud Speaker able to give more faithful reproduction than the small, unobtrusive Brown H.2.

The purity and loudness of its tones—for such a small instrument—is remarkable, and is due entirely to its unique construction.

The principle employed makes use of a vibratory reed attached to a cone-shaped aluminium diaphragm at its centre, eliminating every possibility of distortion.

And because the diaphragm is merely the thickness of paper, the H.2 is extraordinarily sensitive to the slightest current fluctuations—the pitch and timbre of every note being conveyed in the most realistic manner.

When you buy a Brown, therefore, you may be sure that you are obtaining an instrument which is scientifically correct—one that will give you years of faithful service.

S. G. Brown, Ltd.

Wholesale
Victoria Road, N. Acton,
W.1.

Retail
10, Mortimer St., W.1.
15, Moorfields, Liverpool.

Types:

	Model H.2, 12in. high:	Model H.2, 21in. high:	
120 ohms	£2 5 0	120 ohms	£2 5 0
2,000 ohms	£2 8 0	2,000 ohms	£2 8 0
4,000 ohms	£2 10 0	4,000 ohms	£2 10 0



WIRELESS PROGRAMME—TUESDAY, March 11th.

The release S.B. printed in italics in these press bulletins
means a Summarized Broadcast from the station man-
agement.

LONDON.

BIRMINGHAM

BOURNEMOUTH

BROADCASTING HEART-BEATS

DOCTORS are becoming more and more
of the use of white paint in their
offices, hospitals and homes,
and the use of the paint is
so great, which is used in almost all
the houses.

11. **do you feel that the following are useful**
11.1. **to whom**

A temporary was given the other day by Dr. J. A. Yost, of the Long Island Academy and College, Greenport, New York, Island Park, platform. Dr. Yost recited the following: "I feed now the cattle with thoughts living hours of listeners all around."

The man who built it in a short
period of time was the same
man who

WIRELESS FREEMASONRY.

THERE is a *misnomer* in every old book who knew the old changes well; stronger yet further up the gulf, the western gulf-breaches were as wide as

Editor Times-Ledger
You would find yourself more at
home in a stratosphere than in a
jungle. You are a good deal like
the author of *Born Free*. He is a
caged bird of restlessness who
thought it a terrible bore to have no change
and no outlet for his energy.

CALIFORNIAN BROADCASTING

ONE of our readers has recently received a
copy of "A History of the English Church in
the Reign of King Edward the Second," by
John Leland, written in Latin. The author
is a noted friend of the Royal Society. Several
of his works have been highly commended.
I have examined his "Chronicle" here, and
it is a very good one. It is printed at
Albury, about 4,000 miles away. The end of
the book is as follows:

Any of our readers who have heard the
news are requested to write to me at
Mr. H. A. Lupton, Chairman of the Hackensack
District Rule Society, 1, Belmont
Road, Englewood, N. J. Mr. Lupton has given
considerable thought to the proper author of
Oakland's Charter.

CARDIFF

CARDIFF.

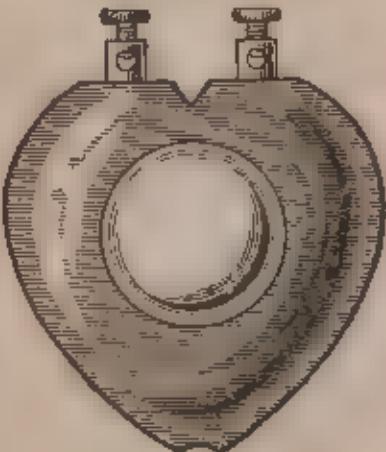
MANCHESTER

NEWCASTLE

A number against a source) next indicates the name of its publisher. A key list of publishers will be found on page 227.

STOP! READ THIS!

Listening-in is no longer confined to one room.



In Ebonite and Crystallite,
red or black, with coloured
centres. High insulation.

7/6 each.
(3d. Postage.)

The Ktol Radio Bell Push is an improved Electric Bell push having two terminals attached to it for extension purposes.

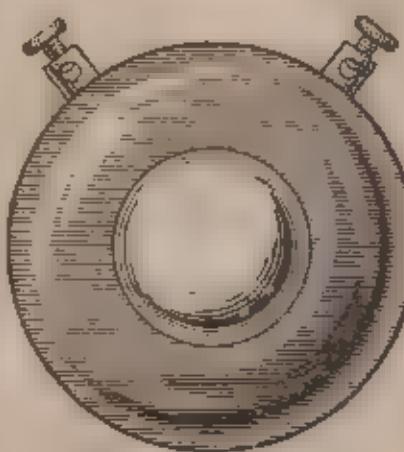
A Wireless Set can be attached to the terminals which will enable one to "listen-in" in any or every room of the house at the same time.

The Ktol Radio Bell Push can be used as a fixture on the wall, or as a hanging bell push.

It also allows of an extension being taken from the electric bell circuit to any part of the room, and when used as a fixture to a wall, two extensions can be taken from each Radio Bell Push.

Each Radio Bell Push can be put to **SIX** different uses.

Instructions supplied with each Radio Bell Push.



In Polished Wood, with
coloured centres.

4 6 each.
(Postage 3d. extra)

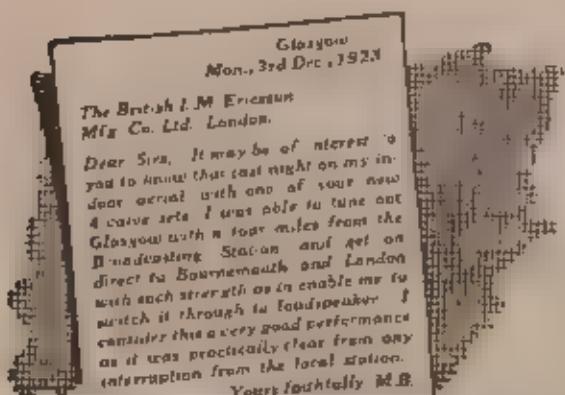
Sole Distributors.

THE KTOL COMPANY, 242, Lodge Road, Birmingham.

TRADE ENQUIRIES INVITED.

(Patented U.K. & Abroad.)

Telephone: Central 5615.



Buy
British
Goods
Only.

Sell us Details
MARCHESTER 19, Heide
Street, TRAMSTEAD, NOV
TURGHAM W. J. Rose &
Co., Traffic Street, BIRMINGHAM 14-15, Seven
Hill, COLCHESTER 121, High
Street, SCOTLAND
Malcolm BRUNNAN, ST.
Robertson Street, Chas
ew R. E. EWALD
McLure & Co., Newcastle
on-Tyne.

Glasgow cut out at 4 miles
and Bournemouth received
on a Loudspeaker

THIS elimination of powerful local broadcast and reception at loudspeaker strength of a distant station is the ordinary performance of Ericsson Multivalue Receivers.

The whole secret lies in the use of extremely selective loose-coupled circuits and the almost reactance permitted by the PMG.

Tuning on these Receivers is Verner in its closeness. This feature allows the utmost strength of reception of the broadcast programmes.

These receivers are most moderate in price, beautifully made and robustly built.

Write us to-day for our
Fully Illustrated Leaflet.

The British L.M. Ericsson Mfg. Co. Ltd.

International Buildings,
Kingsway London, W.C.2

Ericsson
VALVE
RECEIVERS

The Wonderful
MARCONIPHONE
V 2



This instrument has been installed at the places shown on the accompanying map and the London Broadcasting Station received with excellent results.

Price (complete with head-phones,
valves, batteries, etc.)

£19 : 4 : 6

The Marconiphone The Triumph of the Master Mind

MARCONI'S WIRELESS TELEGRAPH CO., LTD.,
Marconiphone Dept., Marconi House, Strand, London, W.C.2.

Principal Buildings. Queen Street CARDIFF 10 St Vincent Street GLASGOW 10 Cumberland Street, Deansgate, MANCHESTER; 38 Northumberland Street, NEWCASTLE-ON-TYNE.



Listening to the city-

Away in your Cottage home, outside the City, far from the hub and bustle of business, you may sit in comfort during these cold evenings and yet share the enjoyment of music, the interest of late news, and other matters for your edification.

Providing you are within a radius of 30 miles of a B.B.C. Station this wonderful little set will give you unbounded pleasure. The Crystal Set and 2-Stage Amplifier combined will give most perfect results in your small room and will operate the Western Electric Loud Speaker No 44004 direct. It is fitted with Wecovalves, which operate off dry batteries, so that you have none of the trouble attendant upon the use of accumulators, and the special distortionless transformers render the combination almost perfect in its reproduction.

If you prefer to use Head-phones then the range of the set is at least doubled.

Western Electric

MAKERS OF OVER HALF THE WORLD'S TELEPHONES

The combination illustrated above consists of
Wecovalev Set No. 44080, a Crystal Set
with Double Amplification £12 0 0
Loud Speaker No. 44004, of medium size
with a metallic diaphragm and adjustable
air gap £3 17 6
(B.B.C. Contributions extra.)

Suitable for reception of a B.B.C. Station within a radius of 30 miles and sufficiently powerful to fill a small room.

WEKOVALEVS AND WECONOMY SETS
ENSURE ECONOMY. THEY OPERATE
OFF DRY BATTERIES, AND NO ACCUMU-
LATORS ARE NECESSARY.



WIRELESS PROGRAMME—SATURDAY, March 15th.

The letters 'E.D.' printed in italics in these programmes signify a simultaneous Broadcast from the station mentioned.

LONDON.

10.00—*THE STATION ORCHESTRA* (Conducted by Mr. J. A. Williams) "The Station Orchestra" will play a variety of music, including the latest hits, and will be joined by the "Savoy Bands".
 10.30—*THE SAVOY BANDS* (S.B. from London) "The Savoy Bands" will play a variety of music.
 11.00—*CLOSE DOWN*

Announcer Stanley Elton

CARDIFF.

9.00—*IT WAS "FIVE O'CLOCK"* (by E. Evans) Vocal and Instrumental Artists, the Station Orchestra.
 9.30—*OUR THE "KIDDIEWINKS"* (S.B. from London) Local News and Weather Forecast
 10.00—*WILLIE L GLENN* (Song of the Week)

Popular Night.

Vocalists: **MASTER T TELTON WILLIAMS**
Entertainers: **SIDNEY EVANS and LIBERTY LEESE**
THE STATION ORCHESTRA

10.00—*Song* "He Shall Feed His Flock" (by The Master)
 10.30—*Song* "He Shall Feed His Flock" (by The Master)

Rope Making.

A Talk from Glasgow, by Henry Berkmyre.

THE first machines for twisting hand-spun yarn into strands were made in England. Many vegetable fibres may be used nowadays; but for the combined qualities of strength, flexibility and durability, none can compete with Manila hemp.

The first process of manufacture is to open and batch or mix the various marks of hemp. After batching, the fibre passes through various machines, the purpose of which is to bring the fibre into such a continuous unity as to form a basic for spinning into yarn. They consist of a system of pins and rollers which act in much the same way as the ordinary comb one uses for one's morning toilet. The fibres are straightened and drawn until they all lie parallel one beside the other. The short fibre or tow falls below the machine and is used for the cheaper classes of rope.

When they have been reduced to a sufficiently fine state, they are taken to the spinning frames, which work somewhat similarly to our ancestors spinning jennies. The fibres are for the last time drawn through pins, and twisted or spun into yarn. This is automatically wound on bobbins to facilitate its removal to the ropewalk.

A ropewalk is much the same as it always has been. At one end is a bank or creel to hold the bobbins of yarn. The size of rope and the number of strands having been decided upon, the necessary number of bobbins are mounted in the bank. The yarns are then passed through a register plate, and thence through a tapered tube, the sectional area of the smaller end of which is equal to the sectional area of the strand. The term given to the yarns on emerging from this tube.

Each strand is then separately attached to a revolving hook on a travelling machine running on rails, not unlike one ordinary railroad, but, of course, of narrower gauge. This machine proceeds up the walk, drawing out and twisting the strands until the requisite length is reached.

At the bank end of the walk the strands are then cut and attached to the hooks of a fixed machine, and both sets of hooks are set in motion in opposite directions. A carriage bearing the laying top is brought close up to the traveller, and the strands placed in its grooves. The action of the hooks on both machines revolving, twists or lays the strands one upon the other, and thus forces the carriage down the walk until the rope is completed.

A COUPLE OF DANGERS

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)

THE STATION RE-TRUCKS COMPANY

Presented and Directed by
 10.30—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 11.00—*Local News and Weather Forecast*

THE SAVOY BANDS

11.00—*CLOSE DOWN*

10.00—*Local Concert* related from the Oxford University Union
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

THE SAVOY BANDS

11.00—*CLOSE DOWN*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES

10.00—*OUR THE "KIDDIEWINKS"* (S.B. from London)
 10.30—*Local News and Weather Forecast*
 11.00—*Local News and Weather Forecast*

VICTOR SINGLES</div

Official News and Views.

Gossip About the B.B.C.

A man attacked the broadcast of church services by a speech at a rally for church-going. I was sorry, as I do not think the cause reduced to a machine for baptising marrying, the situation getting. We might point out that it is a substitute for church attendance. In the first place, it takes part after the service, so that it does not interfere with those who are regular churchgoers, make their devotions.

The man's speech was far from good, helps to satisfy a few, it went, and the letter to Dr. St. John's Standard received from a reverend father Martini of the Fleetwood was broadcast, were overwhelmingly in favour of the broadcast of church services.

The Decrease of Oscillation

The work which the Radio Stations of Britain have done to eliminate the noise of the Baden is worthy of notice by those who care for music. The map which engineers keep to show there is a district in which interference is experienced is now comparatively clean enough in Baden and in Berlin there is yet some trouble.

In the rest of the country we also experience, although in the South Coast of Kent is yet troubled by the Baden. The Baden is near the coast.

"Fugelotto" by Wireless

"Fugelotto," the opera by Verdi, is to be performed in the concert hall at Manchester on March 12. It will be produced and conducted by Mr. T. Stanton of Hertfordshire, our Music Director, and listeners will have an opportunity of hearing some of our most famous tenors sing on this occasion, and the cast includes Miss Gertrude Laver, Mrs. Constance Willis, Mr. John Purcell, Mr. W. Hamm, Mr. J. A. Williams, Mr. Charles G. Gurney.

Hours With Living Composers.

Those who listen on Thursday, the 1st March, to one of the series of Hours with Living Composers, will have an opportunity of hearing Mr. John Ireland—the composer whose works will be dealt with this evening—play, with Miss Daisy Kennedy, his "Serenade in A Minor for violin and piano."

This programme will be widely appreciated by those to these two distinguished artists, Mr. George Parker, baritone, will sing some of Mr. Ireland's well-known songs.

The Third Symphony Concert.

The third concert of the season at the Central Hall, Westminster, on the 2nd March, will consist of a programme of some of the most famous Russian compositions. The conductor is Paul Klemperer, the soloist, S. Slobodcikoff.

The orchestra on this occasion will be the Royal Albert Hall Orchestra, conducted by Mr. Ernest Goosens, and the pianoforte solo will be Mr. Maurice Costello.

Weekly Concerts from America.

A series of experimental relay concerts from America has been arranged owing to the great public demand for such transmissions, and

I hoped that they had been arranged by Messrs. The Metropolitan Vickers Electrical Co., Ltd., of their Manchester, in conjunction with the Westinghouse Electrical and Manufacturing Company of East Pittsburgh, Pennsylvania. The Manchester Station has a programme of 426 metres and operates with an average aerial energy of seven kilowatts.

The station was originally erected to supply other districts with concerts from the Radio City, Portland, Oregon, the station KDKA, and the KDKA, picks up the 109-metre signals and relays them on a wavelength just under 300 metres. If the ratio of broadcast listeners in the districts of attempts have been made recently to pick up KDKA and to relay its station in the British Isles. So far as these have been, it all depends on the strength of stations in comparison with the strength of signals.

Reducing Interference.

Experiments have been made recently with a view to increasing the ratio of signal to atmospheres as far as possible. This has been in a way by the use of directional aerials.

Various methods have been tried. One is the reception of KDKA. The usual method was to use a small frame aerial in connection with a large ground plane. This however consisted of one heterodyne valve, or to six high-frequency valves, the first detector valve, up to three long wave, high frequency valves, second detector valve, and a common coupled low frequency pentode. Generally, only a few of the valves gave sufficient gain and sufficient strength to connect to a relay. The result is over 21,000, where they are retransmitted and relayed simultaneously to all the other stations. Special precautions have been taken to obtain best directional effects with the loop aerial. This has been rather a difficult matter. It is quite possible, however, to cut out certain pumping stations, and also to reduce the strength of atmospheres by varying the direction of the aerial.

Further experiments are being made with a view to increasing the efficiency of the aerial system, and we hope to combine it with a small aerial also as to give a heart-shaped polar diagram, which is one of the most effective for cutting out atmospheres when they are mainly coming from one definite direction.

Comparing Results.

A comparison has been made of the results obtained in picking up KDKA in Manchester and in various parts of London, and the results obtained at all these places are identical with regard to the ratio of atmospheric to signal strength. The reason for making the comparison was that there was a suspicion that the Baginton Hill aerial was subject to atmospheric disturbances, and also of the fact that these are very numerous on the South Coast. It appears that the results obtained are as good as could have been obtained elsewhere.

There are still difficulties apparently in the maintaining of a constant wave-length as KDKA as it appears to vary. These are taken with the receiver to avoid any possible change of wave-length by having a semi-aperiodic aerial system and a perfectly stable

B.B.C. PERSONALITIES.

Mr. Bertram Fryer.

Station Director, Bournemouth.

WHEREVER Mr. Bertram Fryer has worked in the interests of broadcasting he has achieved success. His versatility has enabled him to build up popularity which he always seeks to maintain. Young and old are, with alert eyes set in a rather fat oval face, his personality creates a sense of intelligent activity wherever it is met.

His first association with the Corporation was Station Director at Newcastle. He went there from the Apollo Theatre, London, where he was playing with success in *Hawley's of the High St.* Before this, Mr. Fryer's reputation as an actor, theatrical producer and manager was well known in many parts of the country for ever since his early youth he has lived almost entirely in the theatrical and entertainment world. A character actor of no mean ability, he has played not only to London and the provinces, but also in South Africa.

As a manager he worked with his father for about five years on the London Stock Exchange, but his craving for self-expression in a finer manner made him leave the life of work for a more variable existent life. The forthcoming.

Opera Under Difficulties.

DIRECTOR OF STATION BOURNEVILLE, which covered a period of six months, from April until October last, he himself popular with all the listeners in his area and it is to his credit that he produced Grand Opera under conditions as difficult as they were novel. With none but local singers, he produced the first and second acts of the *Lily of Killarney*, the first and second acts of *Mauritius* in Lancashire, and the first and second acts of *Falstaff*, assisted this time by Beatrice Wimborne of the British National Opera Co. All these were produced in the studio, and without doubt, created a landmark in the development of broadcasting in the North.

When it was decided to open the Bournemouth Station, it seemed fitting that Mr. Fryer should have the responsibility and the work of making this development a success. Arriving there a stranger, he quickly made many friends and looks back now with a quiet smile upon those late autumn days, when, in a single room over a garage, he began his work.

Programmes for Schools.

Since October he has produced Sketches, symphonies, and a programme dependent on local talent, that has met with constant appreciation. His courage induced him on one occasion to produce Dvorak's New World Symphony, and his reward came, when later it headed the list of listeners' request night.

It is also to the credit of Mr. Fryer that when at Newcastle he began special transmissions for schools. His idea was that immediately after school hours there was a fine opportunity to get schools a programme midway between that of the "Children's Hour" and the Men's Talk. It proved very successful and at Bournemouth where he developed the idea, too, it has made him popular with the children of the South Country as with those of the North.



MR. BERTRAM FRYER.

Terrors of After-Dinner Speaking.

A Talk from London by LORD RIDDELL.

I CONFESS I find it inspiring to make an after-dinner speech without a audience. It is difficult to be merry when talking to a magnet. They say that teetotalism will kill after-dinner speakers. Perhaps it would be a good thing. Talking to a magnet is like talking to a teetotal audience. It works hard and bright, but it is not hilarious.

A Tricky Business.

The terrors of after-dinner speaking are of two sorts—the terror of the speaker and the terror of the audience. From the speaker's point of view, after-dinner speaking is a tricky business.

Many speakers forget what they intended to say. They are like the young man who, when called upon to propose a toast, remarked:

"When I came into the room only two people knew what I was going to say—the Almighty and myself. Now there is only one, and that is the Almighty."

Most after-dinner audiences are tolerant. They do not expect much, and as a rule they are not disappointed. How they survive the enormous food lists, I sometimes wonder.

"Cutting the Cackle."

On these occasions I resemble the prisoner who was about to be hanged in a far-off American state. A large crowd had collected to witness the execution. It included dozens of reporters and the local Senator. One of the reporters asked the Sheriff that the prisoner should make a short speech.

"Thereupon the Sheriff said to the prisoner: 'Would you like to make a speech before I hang you?'" "No," replied the prisoner, "I'm no speaker. Get on with it." At which he stepped on to the platform and said to the Sheriff, "As the prisoner does not wish to speak, is there any objection to my making a short speech?" The Sheriff, much surprised, said to the prisoner: "This is a matter for you. Do you object to Senator Brown making a speech?" "No," said the prisoner, "let him speak. But hang me first."

Back-chat from a Corpse.

If truth were told, those are the sentiments of many after-dinner audiences. Luckily, they do not express them. The speakers do not suffer like the clergyman who had delivered a funeral oration on a member of his flock who had been a most exemplary person. The parson concluded his remarks by saying he was sure that the deceased was now far happier than he had been on earth.

At this, a lady in the front pew stood up and, addressing the parson, said: "I am the widow. While you have been speaking I have been in a spiritualistic communication with my husband, who desires me to say on his behalf that you are wrong, as he was happier with me on earth than in his new abode."

The clergyman, much annoyed, replied: "I have been in the profession thirty-six years. I have delivered no fewer than two thousand five hundred and fifty-three funeral orations, and this is the first time I have had any back-chat from the corpse."

One of the terrors of after-dinner speaking runs the point. This is a horror for both speaker and his victim. The other night a Janet Minister, when proposing the toast "Absent Friends," made this error. He concluded: "I ask you to drink to absent friends—including the head waiter, whom I have not seen for at least half an hour."

The audience were puzzled. Had he said according to tradition, "the wine waiter" no doubt the audience would have enjoyed the joke as usual.

Then there is the terror of silence.

The unfortunate predicament of the speaker who finds that all his best jokes have been made by previous speakers. Unless he is fortunate enough to have some more shots in his locker, his only refuge is a few chestnuts.

Expected Too Much.

In the past I have relied on the story of the Bishop who was staying in a country house where there was a small girl much interested in his ecclesiastical attire. Wishing to lead her mind to higher things, he inquired whether she knew the Lord's Prayer. "Yes," she said. "And do you know your creed?" "Yes," she answered. "And do you know the ten commandments?" "Yes, I do!" "And do you know your catechism?" "Darn it," said the little girl, "I can't know everything! I am only seven."

After-dinner speaking in America is an ordeal. It has its special terrors. Members of the audience wait behind to put questions,

according to the custom at several meetings in this country.

One charming young lady said to me: "May I ask you a personal question? Are you what they call a blood peer?" I said, "If you use the term in the sense in which we apply it to pedigree cattle, the reply is in the negative."

To-night I shall leave this cheerful studio a poor place to go to bankrupt. I have told my best stories. I can never repeat them. They have been heard, so I am told, from John o'Groats to Land's End by a million listeners. What a terrible prospect!

Taking No Risks.

In future when I am asked to speak at a public dinner I shall bear in mind what took place when a Negro was charged with stealing chickens. He called, as evidence of character, the local parson, another black gentleman. The magistrate said to the witness: "Do you think Brother Sambo is the sort of man who would be likely to steal chickens?" "We, boss," replied the parson, "I should not like to say that, but if I were a chicken and Brother Sambo were around, I would roost high."

In future, as an after-dinner speaker, I will roost high—very high!

Wireless Wisdom.

"Time waste by radio drift is estimated to cost the people of America hundreds of millions of dollars."

"Radio painting is not much used, as calculated recently in Australia."

"The safety of the London streets is a subject in which every Londoner is personally interested."—Sir Edward Shattock.

"The public's performers must in the long run be respected by those who cater to it."—Dr. G. A. Edwards, C. I.

"The motor vehicle is the ordinary everyday vehicle of the ordinary everyday man."—John Montagu of Beaufort.

"Theatrical prospects would improve from the business point of view if something could be done to restore playgoing as a habit. United effort should be made to popularise the theatre by every means that offers especially by such means as the cheapening of prices of admission, the lowering of auditorium fees and charges, the provision of greater seating facilities, and the utilisation of every available form of publicity and propaganda."—A. R. H. Huxley.



AMERICA PEAKED.

The sort of thing that obstructs wireless communication between two great continents.



LORD RIDGELL

WATES

SPECIALITIES

and

USEFUL ADDITIONS WHICH IMPROVE YOUR SET.



Complete
7/6
B.B.C. Tax I

"**BIJOUPHONE**" CRYSTAL SET. Nothing like it on the market at anywhere near its price. Splendid results are being obtained with this marvellous little set.

EXCLUSIVE FEATURES. Vannometer tuning, enclosed detector with gold cat's whisker, ebony top and base, nickel plated for high age in battery condenser, a owing range of 200-200 metres. Range over 30 miles.



22 volt 7/6

"**PYRAMID**" H.T. BATTERY. Made by a new secret process which ensures perfect insulation and consequently long life and freedom from noise. Over 20,000 now in use have made the Pyramid battery famous everywhere.

15 VOLT	2/8
33 VOLT	7/6
60 VOLT	12/6
90 VOLT	18/6

"**BABY IDEAL**" H.T. CELL. Make up your own H.T. accumulator. This 2-volt cell comprises two plates $\frac{1}{8}$ " thick by $1\frac{1}{2}$ " square, fitted in glass container having moulded ribs to hold plates in position. There is therefore no need for separators with their attendant partial short-circuits, and the cells retain their charge for from five to six months.

2 volt cell
1/6

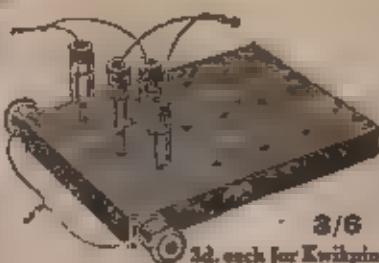


WATES' CELLULOID ACCU. MULATORS. This range of accumulators is confidently recommended to all requiring a reliable battery for valve work. From an acid, and the result of years of experience, they have especially selected values and evanite separators.

Illustration shows one of our "Ideal" glass accumulators.

Volt.	Amp. Den.	1/12
2	40	10/- 2/-
4	40	16/6 3/-
4	80	27/9 5/6
6	40	23/- 3/6
6	80	38/- 5/6

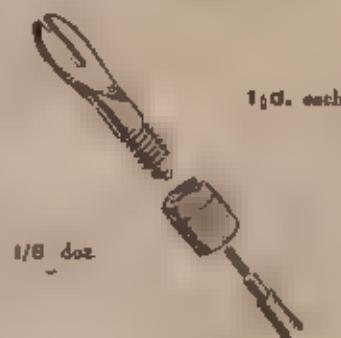
6 volt 50 amp.
32/-



3d. each for Kwikpins.
TRADE ENQUIRIES INVITED.

THE "DONKIDE CONNECTOR." Our latest accessory, giving series, parallel, or series-parallel in a moment up to four pairs of telephones. Many other uses will be apparent, such as connecting up resistances, condensers, etc. in fact whenever a clean, quick change is necessary.

WATES' SPADE TERMINAL. A useful accessory that makes for a neat set, improving results at ridiculously small cost. Any wire fitted in a moment. No need now for the annoying experience of intermittent signals. Wates' Spade Terminals make a sound job of every joint.



1d. each

1/8 doz.

WATES BROS., LTD.

Phone: German 5756

Head Office: 12, 13 & 14, Gt. Queen St., Kingsway, W.C.2. Grams, Zwartesteeg, Westcent.

SOUTHERN DEPOT (Wholesale), 101, OLD CHRIST-CHURCH RD., BOURNEMOUTH.

Phone: Bournemouth 5373

CITY STOCKISTS: PETTIGREW & MERRIMAN, LTD., 122 & 124, TOOLEY STREET, LONDON BRIDGE, S.E.1

SOUTH WESTERN DEPOT (Wholesale), CENTRAL MILL, RALEIGH STREET, PLYMOUTH

ABERDEEN AND N. SCOTLAND STOCKISTS
ABERDEEN WIRELESS SUPPLY CO., 474, UNION STREET, ABERDEEN

Valve Value

The purchase of a receiving valve represents quite a large sum in relation to other upkeep costs of your apparatus.

It is of the utmost importance that the valve selected should give maximum results without deterioration throughout its useful life.

**YOU WILL BE
ASSURED OF
SATISFACTION
BY SPECIFYING**

MARCONI OSRAM VALVES
MADE AT THE OSRAM LAMP WORKS

which have been in production for many years—long before the Broadcasting era.

Made at the great Osram factories, each valve is subjected to the most stringent tests before passing to the shops, you are therefore protected from failure through ordinary sources.

SOLD BY ALL LEADING WIRELESS DEALERS, ELECTRICAL CONTRACTORS, STORES, &c.

BUY BRITISH GOODS ONLY.



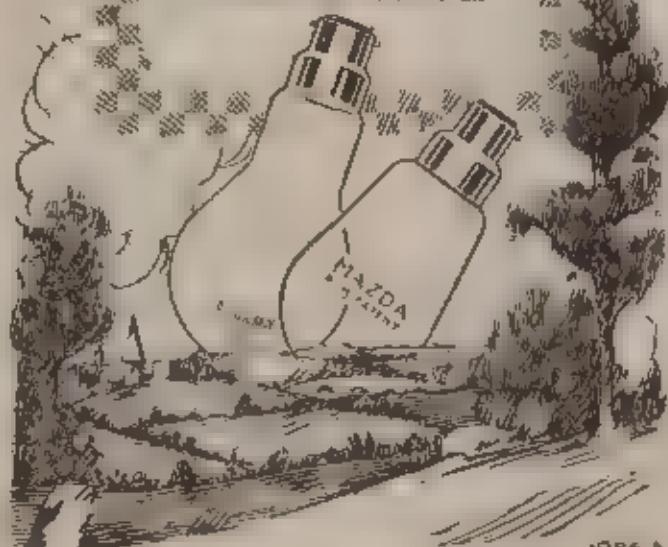
The Sun's only rival

After daylight there is no better light than Mazda—the sun's only rival. Mazda Lamps are unequalled by any other artificial illuminant in economy, brilliance or durability. In cost, colour and reliability, Mazda lighting is a wonderful approximation to the free and eternal splendour of the sun.

Mazda Lamps can be bought wherever electric lamps are sold

MAZDA
ELECTRIC LAMPS
MAZDA LTD., MABLEDOCK, LONDON E.14

Advertisement of
The British Thomson-Houston Co. Ltd.



1936.4

WIRELESS PROGRAMME—GLASGOW—March 9th to March 15th.

The letter "S.B." printed in italics in these programmes signify a Simultaneous Broadcast from the Italian mem-
ber A.R.

SUNDAY

MONDAY

Fischer Mühle

--

TAURUS DAY

THURSDAY	
8	9
10	11
12	13
14	15
16	17
18	19
20	21
22	23
24	25
26	27
28	29
30	31
32	33
34	35
36	37
38	39
40	41
42	43
44	45
46	47
48	49
50	51
52	53
54	55
56	57
58	59
60	61
62	63
64	65
66	67
68	69
70	71
72	73
74	75
76	77
78	79
80	81
82	83
84	85
86	87
88	89
90	91
92	93
94	95
96	97
98	99
100	101
102	103
104	105
106	107
108	109
110	111
112	113
114	115
116	117
118	119
120	121
122	123
124	125
126	127
128	129
130	131
132	133
134	135
136	137
138	139
140	141
142	143
144	145
146	147
148	149
150	151
152	153
154	155
156	157
158	159
160	161
162	163
164	165
166	167
168	169
170	171
172	173
174	175
176	177
178	179
180	181
182	183
184	185
186	187
188	189
190	191
192	193
194	195
196	197
198	199
199	200
200	201
201	202
202	203
203	204
204	205
205	206
206	207
207	208
208	209
209	210
210	211
211	212
212	213
213	214
214	215
215	216
216	217
217	218
218	219
219	220
220	221
221	222
222	223
223	224
224	225
225	226
226	227
227	228
228	229
229	230
230	231
231	232
232	233
233	234
234	235
235	236
236	237
237	238
238	239
239	240
240	241
241	242
242	243
243	244
244	245
245	246
246	247
247	248
248	249
249	250
250	251
251	252
252	253
253	254
254	255
255	256
256	257
257	258
258	259
259	260
260	261
261	262
262	263
263	264
264	265
265	266
266	267
267	268
268	269
269	270
270	271
271	272
272	273
273	274
274	275
275	276
276	277
277	278
278	279
279	280
280	281
281	282
282	283
283	284
284	285
285	286
286	287
287	288
288	289
289	290
290	291
291	292
292	293
293	294
294	295
295	296
296	297
297	298
298	299
299	300
300	301
301	302
302	303
303	304
304	305
305	306
306	307
307	308
308	309
309	310
310	311
311	312
312	313
313	314
314	315
315	316
316	317
317	318
318	319
319	320
320	321
321	322
322	323
323	324
324	325
325	326
326	327
327	328
328	329
329	330
330	331
331	332
332	333
333	334
334	335
335	336
336	337
337	338
338	339
339	340
340	341
341	342
342	343
343	344
344	345
345	346
346	347
347	348
348	349
349	350
350	351
351	352
352	353
353	354
354	355
355	356
356	357
357	358
358	359
359	360
360	361
361	362
362	363
363	364
364	365
365	366
366	367
367	368
368	369
369	370
370	371
371	372
372	373
373	374
374	375
375	376
376	377
377	378
378	379
379	380
380	381
381	382
382	383
383	384
384	385
385	386
386	387
387	388
388	389
389	390
390	391
391	392
392	393
393	394
394	395
395	396
396	397
397	398
398	399
399	400
400	401
401	402
402	403
403	404
404	405
405	406
406	407
407	408
408	409
409	410
410	411
411	412
412	413
413	414
414	415
415	416
416	417
417	418
418	419
419	420
420	421
421	422
422	423
423	424
424	425
425	426
426	427
427	428
428	429
429	430
430	431
431	432
432	433
433	434
434	435
435	436
436	437
437	438
438	439
439	440
440	441
441	442
442	443
443	444
444	445
445	446
446	447
447	448
448	449
449	450
450	451
451	452
452	453
453	454
454	455
455	456
456	457
457	458
458	459
459	460
460	461
461	462
462	463
463	464
464	465
465	466
466	467
467	468
468	469
469	470
470	471
471	472
472	473
473	474
474	475
475	476
476	477
477	478
478	479
479	480
480	481
481	482
482	483
483	484
484	485
485	486
486	487
487	488
488	489
489	490
490	491
491	492
492	493
493	494
494	495
495	496
496	497
497	498
498	499
499	500
500	501
501	502
502	503
503	504
504	505
505	506
506	507
507	508
508	509
509	510
510	511
511	512
512	513
513	514
514	515
515	516
516	517
517	518
518	519
519	520
520	521
521	522
522	523
523	524
524	525
525	526
526	527
527	528
528	529
529	530
530	531
531	532
532	533
533	534
534	535
535	536
536	537
537	538
538	539
539	540
540	541
541	542
542	543
543	544
544	545
545	546
546	547
547	548
548	549
549	550
550	551
551	552
552	553
553	554
554	555
555	556
556	557
557	558
558	559
559	560
560	561
561	562
562	563
563	564
564	565
565	566
566	567
567	568
568	569
569	570
570	571
571	572
572	573
573	574
574	575
575	576
576	577
577	578
578	579
579	580
580	581
581	582
582	583
583	584
584	585
585	586
586	587
587	588
588	589
589	590
590	591
591	592
592	593
593	594
594	595
595	596
596	597
597	598
598	599
599	600
600	601
601	602
602	603
603	604
604	605
605	606
606	607
607	608
608	609
609	610
610	611
611	612
612	613
613	614
614	615
615	616
616	617
617	618
618	619
619	620
620	621
621	622
622	623
623	624
624	625
625	626
626	627
627	628
628	629
629	630
630	631
631	632
632	633
633	634
634	635
635	636
636	637
637	638
638	639
639	640
640	641
641	642
642	643
643	644
644	645
645	646
646	647
647	648
648	649
649	650
650	651
651	652
652	653
653	654
654	655
655	656
656	657
657	658
658	659
659	660
660	661
661	662
662	663
663	664
664	665
665	666
666	667
667	668
668	669
669	670
670	671
671	672
672	673
673	674
674	675
675	676
676	677
677	678
678	679
679	680
680	681
681	682
682	683
683	684
684	685
685	686
686	687
687	688
688	689
689	690
690	691
691	692
692	693
693	694
694	695
695	696
696	697
697	698
698	699
699	700
700	701
701	702
702	703
703	704
704	705
705	706
706	707
707	708
708	709
709	710
710	711
711	712
712	713
713	

A number against a journal item indicates the name of its publisher. A key list of publishers will be found on page 427.

THE CHILDREN'S CORNER.

CONDUCTED BY
UNCLE CARACTACUS

A Message from Uncle Edgar, of Birmingham.

I EXPECT all the Birmingham orphans and pieces are longing to have the first message that Uncle Edgar has ever sent them through *The Radio Times*. Here it is—

Hullo, Kiddies! How are you all? Very well and very happy? That's splendid! And by the time you have read that greeting you will know who has written it, won't you? At any rate, those of you who listen to Birmingham will recognize the familiar words, although I don't think you have ever seen them in cold print before.

Before We had the Alphabet.

In the way, talking about "cold print," I wonder if you know why print should be described as "cold." Shall I tell you?

You probably know that speech is nearly as old as the world, and that people managed to get along for very many years without any other method of communication. Then the idea of writing came into somebody's mind. He did not think of A, B, C and the other things we call "letters" to-day; but contrived to express certain things by a series of pictures and signs.

A Great Art.

Very many more years passed by before anything like what we call "letters" were thought of, and by this time clever men had got into the habit of looking upon writing as a very great art because of the pictures they had become accustomed to use. So that they continued even after the discovery of "letters," to treat the expression of thoughts and messages on stone or parchment as an art. They never hurried over their work, but took any amount of time to make it very beautiful.

Most of these men were very devout and lived in monasteries. You have seen specimens of their work, to doubt; or, at least, you have seen the modern imitation of it known as Illuminated Writing.

The First Printing Press.

And then came one of the most important discoveries of the world—Printing. The first printing press was very crude indeed; but the speed was so much greater than the leisurely writing of the artists, and so many more copies of one message could be produced than was possible by hand, that a great change came over men's ways. Because there was something for everybody to read, everybody wanted to learn to read.

But something else happened at the same time. First of all, as we have seen, people had to rely upon the intimacy of human speech for communicating messages. Then came "picture" messages and, later, beautifully designed and coloured writing.

It is rather curious that the radio is helping to restore the old intimacy of messages from one to another. If somebody invented a printing machine to record messages which appear cold and dead, another great man has discovered wireless, and we hear the voices of friends with a warmth of tone which tells us at once of a warmth of heart.

Isn't that an interesting story by Uncle Edgar, and doesn't it make you think what a world it must have been before there were any books or letters?

STRANGE HOMES OF ANIMALS.

You all know how domesticated animals love their homes. A horse never forgets the place which has once been his home, a dog will go many miles to return to the spot where he has lived at some time; the homing pigeon will fly hundreds of miles in order to return to its nest. But what of the animals we have not tamed? They are every bit as proud and fond of the homes they have made for themselves and their little ones, and devote great labour and skill to the building of the places in which they live.

Quite a little city under the ground is burrowed by the mole. The mole-hills, which you have all seen, are not part of the dwelling at all, so you need not dig down and expect to find Mr. and Mrs. Mole and all the little moles at the bottom of one. The mole-hills are merely shafts which the mole has thrown up in order to get rid of the loose soil which he has scraped

must have a snug, dry home for the night. He chooses, therefore, a stream, and realising that, although the water is sufficiently deep at the time, in dry weather it may become too low, he sets to work to build a dam. To do this he gnaws with his powerful teeth at the trunks of trees until the latter fall. He then cuts them up into logs, and with these and with mud and stones and twigs, and all sorts of vegetation, he makes his dam.

This causes the water to collect at this spot until there is enough to flow over the top, so there will always be water there, unless the stream above the dam runs dry.

A Masterpiece in Mud.

The beaver then proceeds to build his home, which is a masterpiece of skill. It is mud—mud, into which he forces branches of trees, and the whole is beaten so solid that when the frost comes, the "lodge," as it is called, is as hard as iron.

The dwelling is about 6 feet across and 3 feet high. Inside it is beautifully snug and warm, with beds arranged round the walls, so that Mr. and Mrs. Beaver and family can all lie together in the one bed. Under the little beavers are old enough and big enough to go out into the world and make their own homes. Two passages lead from the lodge into the water. One of these opens out just below the level of the water and the other at a lower point, so that if the water is frozen over, the beaver can still get out and reach the store of bark which he has hidden to be his food-supply during the winter.

The Lazy Otter.

With the beaver in mind, you would expect the otter to be equally clever and to build himself a nice home in the banks of the river which he frequents; but no, he is much too lazy when it comes to work, and he is content with ready-made holes in or near the river-bank. He may, perhaps, scrape and shape the hole according to his liking, but he never sets out to make a home for himself unless there is no retreat already in existence.

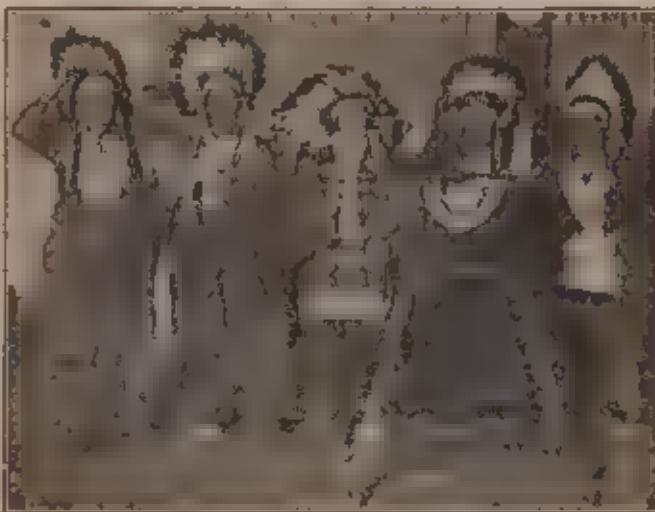
A Splendid Little Boider.

In the woods you will find a splendid little boider is the squirrel. He does not go underground, but makes a nest in the hollow of a tree-trunk or in a fork of the branches, high up, away from any danger. First of all, he makes a strong flooring and sides, and roofs this over with a little dome. This is all done with twigs, so closely woven together that the rain and wind, which he hates, cannot possibly enter. The inside he lines with the softest moss, and the little home is as snug as could be.

As he must have air, he leaves open a little doorway, by which he enters from below, and he has another opening on the opposite side, by which he can escape should an enemy attack him.

There are many other clever home-builders of the animal world, but from what has been said you can now see that they are just as skilful as we are, for they have no tools with which to build their homes.

(Continued on the facing page.)



RED INDIANS BROADCASTING.

The other day these Red Indians sent their war-cry by wireless from the London Station.

away in making one of his tunnels. It is not so easy to find the actual home, which, as a rule, is hidden under a tree or large shrub, or in the bank of a field.

Wonderful Tunneling.

The main hall of the home is a lofty, square-shaped apartment. Two galleries run round the hall, one level with the floor, the other a little higher. The mole's tunnel of the great hall is in the upper gallery, from which three passages lead down to the lower level. There are five short passages connecting the upper gallery with the lower. Tunnels run in all directions from the mole's home, but each one goes out into the lower gallery surrounding the hall, so that the mole, on arrival, must enter the lower gallery, run upstairs to the upper gallery, then pop through one of the passages leading into the hall.

For the "Children."

This however, is not all of the mole's dwelling-place. There is a little house for the children. This is rather a big room, made at the crossing of two of the underground main roads, so that if danger threatens, the mother and her little ones have a good chance of escape.

The king of builders is, of course, the beaver. As his life is divided between the land and water, he must have water in which to swim, and he

The Children's Corner.

SABO AND DAVID IN THE WOOD.

By E. W. Lewis.

THE sun was already setting when David and Sabo, having hidden their little souls—Sabo's in the mousehole somewhere and David's in the middle grain of the middle wheat-stalk in the field, passed through the garden gate on their way to the wood to do battle to the Indians who were still gathered there.

David was fully armed, with his gun, his knife and his tomahawk. Sabo, too, was armed. In one hand he carried an arrow which was made out of a penholder with a new nib in it, long and narrow and shining, like the point of a spear; and in the other hand he wielded the paper he'd made a sword.

The wood was quite close to the house, and on the way, David told Sabo what they would do.

"You must creep up to their wigwams," he said. "because they won't be able to see you in the dark; cut off all their heads with your sword; and make a big shout to frighten them. When they are running away, I will shoot them with my gun; and when they are all dead, we'll carry off their squaws and burn their wigwams."

David sat down on a big stone. "I know what we'll do," he continued. "We'll sit here until they're fast asleep, and then I'll go round and stick them all with my knife, and cut off their scalps. I think they're asleep now. Come on."

As soon as they reached the wood, Sabo crept behind a tree. David called Sabo back.

"At that moment there was a rustling sound quite near. And Velvet suddenly appeared, and ran to Sabo and began talking to him full of excitement.

"What does she say?" asked David. "She's seen them," Sabo replied. Then

(Continued from the facing page)

the Indians came. The first was a tall, thin man with a long face and a very long nose.

There were sounds in the distance, of breaking twigs. Velvet had already disappeared.

The distant sounds ceased. David and Sabo went forward a little. A rabbit started at their very feet, and went bounding up the wood and



He aimed his gun up towards the tree tops.

disappeared into a hole. David, who had been startled, ran behind a tree, but Sabo stood his ground.

"Take cover," David shouted at him.

He spoke angrily, for, to tell the truth, he was just a little frightened. But when he had got his courage again, they went forward once more, for the Indians could not be far away.

They had come out of a place where there was a very tall, thin tree, and the Indians had stopped. They were waiting for the Indians to pass.

Then, as the Indians passed, they began to flap their heavy wings and flew off.

David's heart was in his mouth, and without hesitation, he turned tail and ran. He would probably have run back to the house, had he not tripped over a small branch of a tree. By the time he had picked himself up the danger had passed. He returned to where Sabo was waiting for him.

"Was that an Indian?" Sabo asked.

"No, silly!" replied David. "It was only a pigeon." And he aimed his gun up towards the treetops and fired it off several times.

Then one of those horrible things happened which are enough to make any boy mad. There was a voice in the distance, calling "David! David!" and a white figure came hurrying through the wood.

"Whatever are you doing?" said the nurse. David stamped his feet in a terrible rage. "Go away!" he cried. "We're fighting Indians! Go back."

But the nurse came forward, in the stupid way nurses have at such times. David was furious. He caught hold of Sabo, and threw him at her. She caught Sabo in her hands and laughed. Last of all, he flung himself upon her; but she gathered him up in her strong arms. David kicked and struggled in vain.

"Oh, David!" said the nurse. "Rub noses."

And when David remembered that she was a Rub Nose, he went quietly.

Sabo did not sleep much that night, and when Velvet crept upon the writing desk she found him wide awake.

"Did you see any Indians?" she asked her.

"They weren't Indians," said Velvet laughing softly. "It was only a man and two boys gathering sticks!"

Another "Sabo" Story Next Week.

WORDS FAIL—



to make words fail
you don't have to
crown no matter how much
he was provoked—and words
will not mend any mishap
that may befall your perfect
speech or writing. One's feelings are sometimes
stirred after dismembering
a soldering iron, and it is
eager to discover the
connection. Words simply

I 'dead' earphones to find a loosened connection—but there's something that won't fail and that's Fluxite and solder. Solder gives the problem—it makes a connection whole, like a continuous wire, therefore ensuring continuity of current. So make a point of soldering the vital connections of your instrument without delay. Soldering is as simple as A.B.C. when there's Fluxite at hand to help you.

ASK YOUR IRONMONGER OR HARDWARE DEALER TO SHOW YOU THE NEAT LITTLE

FLUXITE **SOLDERING SET**

It is perfectly simple to use, and we just
put you in contact with the right
special 'ems before 'soldering time', in the
non-heating metal land & a Pocket Blow
lamp, FLUXITE, Solder, etc., and full
instructions. Price 7/-
Write to us
if you would like to know more.

FLUXITE
SIMPLIFIES SOLDERING

A. B. C. D. E. F. G. H. I. J. K. L.
M. N. O. P. Q. R. S. T. U. V. W. X. Y. Z.
Buy a tin to-day.

FLUXITE LTD., 328, Bevington Street, Bermondsey, England



£7/-



Super 3 Set.

Set includes:
Microphone
Commutator
Transformer and 1
Antenna

For transmission of
radio waves.

Commutator
Transformer
Antenna

Battery, Accidental
Switch and Headphones

Price

£12 0 0 : 0
plus values & taxes as
be on

FELLOWS

Amplifier.

Amplifier
Set

Special
Amplifier
Set
including
Transformer
and
Antenna

£6 0 0 : 0

Transmitter
Set

Transmitter
Set

£6 0 0 : 0

Transmitter
Set

£6 0 0 : 0

Transmitter
Set

£6 0 0 : 0

FELLOWS MAGNETO Co., Ltd., NW 10



Letters From Listeners.

Broadcasting "Big Ben."

Sir.—I write to ask you to settle a little argument between a friend and myself regarding "Big Ben." The argument is that "Big Ben" never strikes the quarter and half hours, but that it is a bell in St. Margaret's that does the striking for these and "Big Ben" only strikes the hour.

As you advertise a time signal from "Big Ben," what I really wish to know is, does the striking of the quarter and half hours actually take place in "Big Ben" clock tower, or does St. Margaret's strike them instead?

Yours truly,

London, W.

A. E. P.

"Big Ben" strikes the hour, quarter hour, half hour, and three quarters. The microphone is actually in the tower of "Big Ben." If one listens very intently, one can hear very faintly the chimes of St. Margaret's between each strike.]

The Position of the Microphone.

DEAR SIR.—A remark by Captain Eckersley in your issue dealing with the relationship of the transmitter and the receiver is rather illuminating.

It seems to me to be ridiculous that the microphone should have to be within about three to four feet of a singer. Very few of us, I am sure, would care to be in the microphone's position, as, no matter how perfect a singer may be, there are technical tricks in singing that are all too evident at that distance. After all, a listener compares a singer over wireless with

a singer heard in, possibly, a crowded hall where the best he can be to the singer is perhaps over thirty to forty feet.

The point of view of the listener in the hall is different, therefore, from the point of view of the microphone.

Another has been to me by [redacted] surely there is no technical difficulty that cannot be removed. Plainly, the microphone could be at the end of a tube screening it from the audience.

The orchestra, no matter how well the microphone be placed in the Studio, will never sound so well balanced as an orchestra in a hall. I noticed that Captain Eckersley was meeting my point a little when he filled the hall in one of the recent Sunday transmissions.

A sound wave actually agitates the air of a room and if an audience is present, the wave has to pass through the air in front of the audience, the possibility is that the sharp corners of the notes—if such an expression may be used—are rounded off, and nothing but the pure notes remain.

Yours faithfully,

Glasgow.

N. T.

Captain Eckersley agrees with this correspondent about the question of the focus of the microphone, and believes there are ways in which, in spite of the 'phone echo, it is possible to get over the difficulty. He joins issue with him on the reason why filling the hall with people prevents echo, and does not think it has anything to do with the ringing air from the audience. It is simply the fact that the broken contours of the objects in the room,

nearly, the audience prevent any definite resonances.]

Late Night Wireless.

Dear Sir.—Recently I availed myself of the opportunity you afforded of trying my set on long-distance work, viz., Aberdeen from 10.30 p.m. till 12.30 a.m. As the owner of a multi-valve set, this opportunity was the more appreciated by the fact that a "radio" friend was with me trying out a new circuit and was pleased to hear this comparatively long-distance telephony on a home-made set from London.

Would it be at all possible to arrange that all stations should take it in turns to have a late night occasionally, and thus allow owners of valve sets capable of such work an opportunity of "trying them out"?

Yours faithfully,

London, N.W. F.C.E.

[Every Wednesday evening one station carries on for half an hour after the program close down in order to enable people to test their sets. Each station takes this extension in turn, and an examination of Wednesday's programmes will show the testing station each week.]

Real Devonshire.

DEAR SIR.—I thought I'd write a line in telo that us Devonshire folks do enjoy listening to they Dick-Jack talks. Us like sum o' t'other trade that ya broadcast to us, but we love thole Tossell, on he speaketh plain English, and when he hath finished us veel like thongy old work house boy us rail about who zed he wanted to moore. So I hop you'll give us a bit more o' zane.

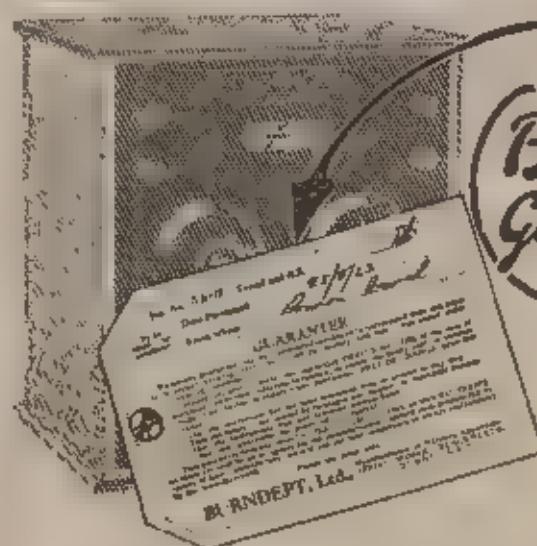
If there's any words in these letter that you don't know the meaning ov, I darsay thole Tossell wid trice all bout et. Ax en.

Yours truly,

F.C.E.

A HIGHLY EFFICIENT TWO-VALVE LONG- RANGE RECEIVER

*The
Burndep
Guarantee*



Ethophone Popular Model

FOR those who wish to receive distant Broadcasting on Head Telephones, and to whom cost is an important consideration, we recommend the Ethophone Popular Model. This is a highly efficient long-distance Receiver which with practice will receive many, if not all the British Broadcast Stations in most localities on the usual type of outdoor aerial.

It is so easy to operate that no one need have the slightest fear of not obtaining the best results. This instrument has a self-contained High-Tension Battery.

The instrument is designed to operate one, two or more pairs of head or telephone speakers. You should obtain a companion instrument can be purchased at any authorized agent.

The Ethophone Popular Model is fitted with screw holders and fixed resistors which can be altered to suit any type of voice.

BURNDEPT LTD. Head Office: Aldine House, Bedford Street, Strand, W.C.2. Phone—Gerrard 3912.

BURNDEPT

Ethophone Popular Model with 2 ft. continuous H.T. Battery	£14 0 0
To which must be added Broadcast fee per month	5 0
R.S. valves required	1 0
Accessories	1 7 6
Head or telephone pair	2 0
Ampl. Equipment	1 0
If new Dual Emitter Valve is used, L.R. Valves & mounted each	1 10 0
Burner & incinerator	1

ART STUDY AT HOME

Has it occurred to you that you might at home spare hours of happy interest with a Sketch Book? At home, in your room, you can not only acquire a fuller understanding of Art, but learn to practise it—if you really have "the wish to do so."

The Press Art School has evolved a system of Art Tuition which dispenses with any elaborate Studio, "properties," materials, etc. It enables the Student to study anywhere at any time—at home, or open, at the theatre, museum, in the motor-car, library, or steamboat or train. By training the eye to observe, sharpening the sense of character, increasing the facilities of analysis and inventiveness, Press Art School "Nature" methods develop "natural Drawing with definite ability." A study of Drawing by these methods would give you an added joy in life and present a new world to your eyes. From every aspect Sketching is a never failing asset.

If you have ever had the wish to produce original drawings write for free.

ILLUSTD PROSPECTUS

which will show how, even though you lack any previous Drawing experience, you can be trained by *caractéristique*—a process interesting and wonderful—so that you will bring out the *essence* of Address in personality. Poetry & Art are also taught.

The
PRESS ART
SCHOOL

(Dept. R.T.S.)

Tudor Hall,
Forest Hill,
S.E.23.



LISTEN IN AND LEARN TO SPEAK FRENCH

WITH LINGUAPHONE LANGUAGE-TEACHING RECORDS ON YOUR OWN CRAMOPHONE IN YOUR OWN HOME

Perfectly Simple, Wonderfully Fascinating.
Entertainment and Instruction Combined.

A French professor gives you personal tuition in French by your own family. You hear his voice, get the correct accent, the proper pronunciation, and learn to speak easily yourself in the shortest possible time.

Every member of your family can receive instruction at the same time without any extra cost, and under the simplest conditions.

Learn easily, in shortest possible time, interesting facts on a capital language, French.

Each of our students of course, with a few hours of practice on the Linguaphone Language Records will help you considerably, especially in the use of French, or even in French, and understand French.

FREE

General information, terms, etc., in a pamphlet sent free. Write for full particulars.

THE LINGUAPHONE INSTITUTE,
31 & 32, Hugh Lofting, London, W.C.1,
ENGLAND

Demonstrators Required.

LE CARNAVAL.

The following talk will be given at London Station, by M. E. M. Stephan, on Tuesday March 11th. It is printed here in French so that readers of "The Radio Times" may follow the speaker word for word. In this way, listeners will be enabled to correct any errors of pronunciation, and to see exactly how French words are spelt.

Le Carnaval c'est proprement la période qui va du jour des Rois au mercredi des Cendres, et pendant laquelle se déroulent les fêtes et les diverses sortes de bals. Dans le plus court il est appelé Carnaval les trois jours gras (dimanche, lundi et mardi) qui précédent immédiatement le mardi des Cendres. Celui-ci doit certainement vous le savoir, le premier jour du Carnaval.

Pendant ces trois jours ont lieu les diverses fêtes du Carnaval—travestissement, bals masqués, etc.

Il est très difficile de trouver à quel époque précise remontent ces masques ou masquerades, mais tout semblé indiquer que le Carnaval ne serait autre chose qu'une continuation ou peut-être aussi un reste des anciennes fêtes populaires des Rameaux telles que les Bacchanales, les Luperciales et les Saturnales.

Au moyen âge nos pères célébraient deux fêtes qui rappelaient un peu celles des Rameaux et étaient la fête des fous et la fête de la mort.

Les masques primatifs devaient être assez grossiers à porter, car ils se faisaient à l'aide de bois, de terre et de toile. Je ne vous apprendrai rien en vous disant que les acteurs grecs employaient des masques pour jouer leurs comédies et leurs tragédies.

Au moyen âge on s'en est servi à tout propos; même dans les fêtes religieuses il suffit de lire dans les Chroniques de Froissart la description des fêtes données à l'occasion du mariage du Roi de France, Charles VI., avec Isabelle de Bavière, pour se rendre compte de la popularité des fêtes travesties.

Les masquerades du règne de Louis XIV sont restées familières. A l'époque du Carnaval des milliers de personnes parcouraient les rues à pied, à cheval, ou sur des charrois décorés, et pointaient toutes les bouteilles. Tous ces gens, déguisés et masqués, habillés de vert, de rouge, du jaune et de bleu, la tête couverte d'un bouquet de sonnettes, profitant de la licence du Carnaval pour faire avec effronterie la satire publique des moeurs et des abus du temps. Tout cela était accompagné de brassemenes, et de scènes grotesques dont la foudre niait aux fous.

Ensuite de l'époque, Lorot, nous a laissé dans ses Muses politiques, une description des défilés de 1660.

Mardi, multitude de masques,
Qui, ridicules, qui fantomatiques,
Les uns ressemblaient aux Clowns,
Des Margayots, des Autruches,
Des amazones, des bergères,
Des paysannes, des Imberges,
Des Clercs, des sergents, des bandits
Des gorgones, des farfadets,
Des vieilles, des sautes n'y toucher,
Des Jean Monvets, des Scaramouches.

Aujourd'hui il faut aller à Rome, à Venise et à Nice pour voir le Carnaval dans toute sa splendeur. A Paris nous avons la procession du "bœuf gras" le dimanche, le lundi et le mardi qui précédent le Carnaval. Sans cette procession les fêtes parisianes manqueraient un peu d'animation. Elle

nous fait penser immédiatement à la marche triomphale du dieu bœuf Apis" que les Egyptiens adoraient.

Les fous offrent un spectacle insatiable. Avec eux c'est un défilé glamour, la foule se précipite sur les trottoirs pour voir passer le cortège. Et ça en vaut bien la peine. Mais il y a quelque chose de très particulier dans l'avance de la bouteillerie parisienne: l'homme des cavernes gondouï, Vénus accompagnée de ses Nymphes, Satane dansé le matin à une Ménade japonaise pendant qu'un Mandarin chinois aide Bacchus à grimper sur son tonneau; l'antiquité, le moyen âge et les temps modernes sont là côté à côté, se souriant et se tutoyant avec une tendresse touchante. Enfin voici le "bœuf gras" orné de banderoles et de fleurs, flanqué de ses deux aquifificateurs et de savages armés de hache. Il poursuit d'un œil tranquille

"Ce songe intérieur qu'il a, rebute jasme."

La promenade finie, il sera dirigé sur l'avenue où il attendra, en attendant ses tortures, car pourtant il n'a pas pu avoir été vaincu. Triomphalement par les rues le lundi, et le mardi gras, viendront le rejoindre, et tous trois, bâties de prix, et morceaux éternels verront leurs jours se finir sur la table des gourmets.

Véhement, je l'espere, un bon exemple des honneurs de ce monde! "Si l'empereur gagne tout."

WATCHMAKERS' BLESSING WIRELESS.

EVERY new wireless, on the instant is a curse "ever for me," said a repairing watchmaker to a writer in the *Daily Chronicle*. On being asked why, he said the radio signals were responsible. It seemed that the listener began to put all the household clocks right when the time signal came through.

Now, clocks are designed to run to the rotation of hands in front of you, down back wards instead of forwards, while striking-mechanisms are not meant to be altered any way.

"But," ended the watchmaker, "the synchronized clock will no longer be a novelty. It will not be long before someone puts on the market a wireless clock without works. The hands will be attached to a coil that will receive the waves from Greenwich or Westminster, and every clock will then have perfect time."

WAVES AGAINST A "WALL."

AN interesting theory has been advanced by Professor Vizard, of Christiania University. He asserts that the atmosphere of the earth outside the air stratum is shot up by a wall which is a solid mass of crystalline particles of nitrogen.

It is owing to this fact, he says, that the sky has its blue colour, and the "wall" rejects wireless waves. Without it, the waves would get lost in the ether. It is very likely because of this envelope of nitrogen that a wireless message follows the contour of the earth and does not fly off into space.

EXPERIENCE

The CRYSTAL SET
with VALVE RESULTS



Price,
2
Grosvenor

The most perfect Broadcasting Crystal Set can be found in this. On this wonderful little set Broadcast has been heard in all its splendour within a few miles of the Broadcasting Station. Micrometer Adjustment giving permanent stability.

Send for our other standard Plans 2/-

The new 50 page Catalogue R. is free on request.
RADIO INSTRUMENTS, Ltd.,

2, HYDE ST NEW OXFORD ST, W.C.1

Telephone: GERRARD 7-1111

STAND BY FOR
ONE MOMENT
PLEASE!!

NEW
INVENTION
CALLING!!!

BOYLE'S
Patent Water
Heater Provides
INSTANT
HOT WATER
FOR BATH
OR KITCHEN

WITH OR WITHOUT GAS.

It is portable, and easily transferred from Kitchen to Bathroom.

Connected to your own sink or bath tap by means of rubber tube and union, it stands on gas ring or Primus Stove and gives IMMEDIATE and CONTINUOUS flow of HOT WATER.

It provides an excellent hot bath in fifteen to twenty minutes, costing a halfpenny for gas.

PERFECTLY SAFE AND GUARANTEED NOT TO GET OUT OF ORDER.

No fumes. No flue.

From 45/- to 63/-.

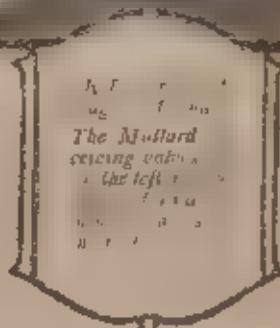
C. BOYLE & Co., Patentees & Manufacturers,
10, GREAT NEWPORT STREET
(adjoining Leicester Square Station).

Come and see them working.

WIRELESS VALVES



First
Across.



A FINE
example
of the
Mullard
vacuum
valves
on the left
is the
"First
Across".

YOU know the keenness and the rivalry which goes to win the coveted phrase "First across." Every wife is subjected to most careful scrutiny, but the choice of valve is almost a religious ceremony, so essential is the right selection of the valve.

The *First amateur "First across"* the 11th
both ways is

Mr. PARTRIDGE, MERTON LANE, MITCHAM
and the *First schoolboy*

Mr. C. W. GOYDER, MILL HILL SCHOOL.

They both used

MULLARD VALVES.

Why not get the best out of your set? The Mullard range is comprehensive and any dealer can supply you with the right Mullard valve for your circuit or set.

Ask him to-day.

Mullard

A Valve for Every Wireless Circuit

For further details apply to your local dealer or to the Sales Department, Mullard Radio Valve Company, Ltd., 10, Great Newport Street, London, S.W.1.

All that Wireless can give—given as it should be.

With any one of these superb Polarphone instruments you are equipped to enjoy all that there is to get from Wireless. The programmes of all European stations are open to your choice—which can be gratified by a simple tuning-in operation. You are provided with a

Varied and Interesting Entertainment always to hand.

At dinner—or bridge or billiards—you may enjoy with your guests the added pleasure of music and song faithfully reproduced—a perfection in wireless reception peculiar to the

Polarphone

"Science's last word—Society's first choice."

R.C.C. Guarantees and Engineer Service ensure your full satisfaction—

Every Polarphone Set is fully guaranteed by the Radio Communication Co. Ltd., but there is an additional offer for any buyer who cares to accept. An experienced R.C.C. Engineer will on request attend your first concert after installation, to make minor adjustments necessary to perfect rendering. Write for the Polarphone Booklet and let us arrange a demonstration at our beautifully appointed Showrooms.



The Man to help you in Wireless Matters.

He is ready with sound and friendly advice—he has knowledge which will help you over many pitfalls—he is backed by the greatest British Authorities on Wireless, and he can tell you the best British Guaranteed Goods.

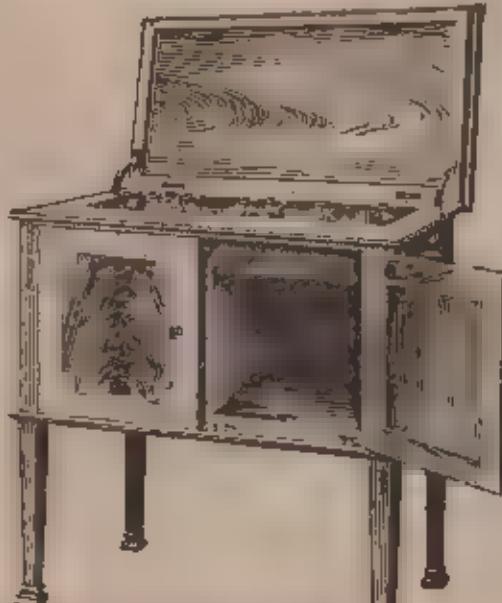
**POLAR STOCKISTS
are everywhere—
write for lists.**

FLEET AD CO.



The POLARPHONE 7-valve Cabinet, remote control Chippendale Model, finely brushed in polished mahogany.

Price £120 : 0 : 0. B.B.C. Tax, £2 : 0 : 0



POLARPHONE 7-valve Cabinet Set, mahogany Adam design, remote control

Retail Price £116. B.B.C. Tax £2 2 6



POLARPHONE 7-valve Receiving Set (Type

R.A. 33-34-3)

Price £48 : 0 : 0. Plus B.B.C. Tax £2 0 : 0

Two Outstanding Achievements.

THE PORTABLE-FIVE.

The only Portable Receiving Set in a leather suitcase, requiring NO AERIAL and NO FATHOM, is the ENTIRELY SELF-CONTAINED including vacuum tube, baton antenna, portable loop aerial and 1000-watt S-anker, having good reception on the LOCAL SPEAKER at 25 MILES or on HEADPHONES at 50 MILES.

THE SUPERFIVE.

A Five-Valve Cabinet Receiver for use with either Dull or Bright emitter valves—
allowing to receive many TELEGRAPH and EXCITING
SPEAKER reception may be easily obtained at 500 MILES under normal conditions under reasonably favourable circumstances good LOUD SPEAKER reception at 3000 MILES has been frequently obtained by private users.

Write for special illustrated catalogues
describing the above &c.



NEW FEATURES JUST OPEN



THE NEW
FELLOWS
LIGHTWEIGHT PHONES

which wider & narrower and can easily be
adjusted with the special spring adjustment.
The handles may be moved into any desired
position or at any angle required to suit the
operator or the work. A small amount of
space is all that is required to store the
operator's chair, and it will make it a pleasure to
have such a chair in your workshop.

Adr. Yellow Magnate Co., Ltd.,
London, S.W. 10.

FELLOWS



Cosco
— where quality
is paramount

GLASS was a solid function from \mathbb{R}^n to \mathbb{R}^m . It was a smooth function, which means that the derivative of \mathcal{G} at x is a linear transformation.

What is the difference? First, the process requires meticulous care paid to every process (there are lot of them) during manufacturing.

The curved filament, tucked away high up inside the hood-shaped Grid and Anode insuring that practically the whole of the filament is exposed to the air and does not become overheated and burnt out. The filament is made of tungsten which has a much longer life—and definitely prevents all risk of tetrophonic noises.

WATERFALLS AND RIVERS OF THE STATE
The state has many rivers and streams, and
a number of waterfalls. The most noted
is the Falls of the Ohio at Louisville.
There are also falls on the Kentucky River,
the Licking River, and the Green River.

TYPE 8

P.1. of Ontario and LF use 12/8
 P.2. to red tape for H,F use 12/6

A. C. Cooper, Ltd.—Highbury Grove, N.5.



Published by
RADIO PRESS, Ltd.
Doverant Court,
STRAND, W.C.2.

The last "Season"
Number now sells,
at 5/- So will this
one later!

Ver. Sup.



Contents

- THE ST100 STAR AND HOW TO BUILD IT. John Scott Taggart, F.Inst.P.
- A 16-VALVE SUPERSONIC HETERODYNE RECEIVER (With results American Broadcasting on a Frame Aerial.)
- DUAL AMPLIFICATION CIRCUITS (By J. E. REEDERSON) John Scott Taggart, F.Inst.P.
- A DOUBLE DUAL RECEIVING SET. (2 H.F. and 2 L.F. Valves, using only four Valves altogether.)
- HOW TO MAKE A REINARTZ RECEIVER. Percy W. Harris.
- RADIO REMINISCENCES.
- ADDING ONE OR TWO VALVES TO A CRYSTAL SET.
- DUAL CIRCUITS—IN THEORY AND PRACTICE. John Scott Taggart, F.Inst.P.
- HOW TO RECEIVE TIME SIGNALS. WHICH VALVE SHALL I BUY. THE SIZE OF COIL TO USE.
- FURTHER EXPERIMENTS WITH THE "ALL WAVE" RECEIVER.
- A TWO-VALVE DRAWING-ROOM SET.
- A TOTALLY ENCLOSED 3-VALVE CABINET SET (Giving two different circuits and working over all wave lengths.)
- A NEW DOUBLE-H.F. RECEIVER DESIGNED BY P. W. HARRIS (Wonderfully sensitive—ideal for Continental broadcast reception.)
- TWO TYPES OF CRYSTAL RECEIVERS. And many other articles of equal interest.



Double Number

1/6

From all Booksellers.

Where there is Radio there should be a copy of **Modern Wireless**
—a magnificent Double Number now on sale.

THE March issue of this great home Radio Magazine is the largest ever published. Containing over 150 pages of brilliant articles dealing with current Radio topics, it represents the culminating point of a succession of exceptional issues.

In face of high quality of the contents shown here it is almost invidious to single out any articles for special mention, but probably the most important constructional article is the one dealing with the ST100 Star. This circuit—and instructions for building a Set using it—is a further adaptation of the ST100, which has swept the country by storm.

In view of the immense importance of Dual amplification two articles by John Scott-Taggart, F Inst.P.,

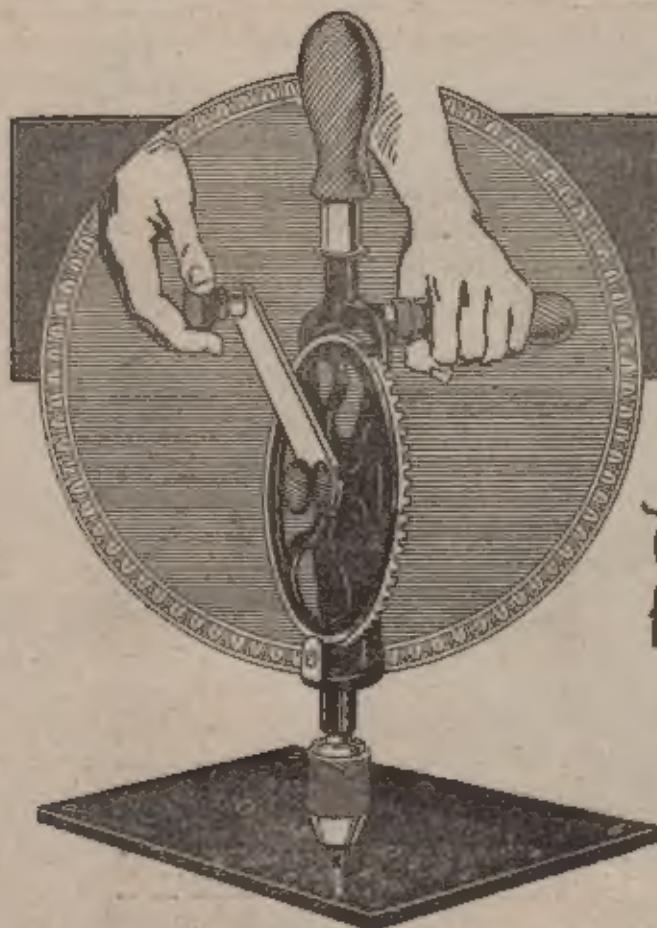
will arouse wide interest. "Dual Circuits—In Theory and Practice" is the first of a series (eventually to be published in book form) embracing the results of considerable research.

Among the new Receiving Sets we can confidently recommend the Reinartz and the Long-Distance Receivers—both to the design of Percy W. Harris. The construction of these and the other Sets described is now rendered a very simple matter by means of the reproduction of full-page photographs—a decided innovation in Radio journalism.

Assuredly there will be a great demand for this issue, and if you do not get your copy to-day you may be too late. Remember the price—1/6 for this number only.

Modern Wireless

Spring Double Number



New Radio Press Books —make sure you have them on your Bookshelf.

Radio Valves and How to Use Them

By John S. St. Pierre, F.I.C.E.P.
In his dual capacity as Editor of "Modern Wireless" and "Wireless Today," the author has come face to face with all the local problems which tend to hinder the progress of local Wireless enthusiasts. Of all the queries which are sent in by readers, practically 90 per cent are traceable to lack of knowledge of the working of the Valve. This book can be read and appreciated by even the layman, while the man who knows a little will find it a valuable gold mine of information.

[post free 2/-] **26**

More Practical Valve Circuits

By John S. St. Pierre, F.I.C.E.P.
This new book contains a large number of new Circuits such as the well-known S.T.100 and S.T.75, the Armstrong Super, the Flexocell and many others. All helpful information such as values of condensers and resistances is given. An up-to-date experimenter can afford to be without this book. Bound in full cloth. [post free 3/-] **36**

Radio Press Envelopes

No. 1.—Containing full instructions showing how to build up the well-known S.T.100 Receiver. Glossy illustrations and diagrams. [post free 1/-].

RADIO PRESS, Ltd., Devereux Court, Strand, W.C.2.

Broadcast Listener's Year Book

Many times as you sit and listen to Broadcasting, you must have wondered what goes on in front of the Microphones. How concerts are broadcast, what the Studio looks like, how the transmitting gear is actually operated, and so on. You can now satisfy your curiosity by reading this new book. It contains, among other items, Notes on the B.B.C. Staff, an article by John Henry, an explanation of how it is done, by Capt. Lukerley, a review of 1923, by Arthur Burrows, and a large number of other articles of novel and absorbing interest. This edition is rapidly becoming exhausted and will not be reprinted—*you should buy your copy 1/- immediately.*

[post free 1/-] **16**

Pictorial Wireless Circuits

By Oswald J. Smith
Because beginners often find it difficult to read a Valve Circuit and to follow the diagram of connections, this new book makes use of an entirely new idea. The component parts if a circuit are shown in pictorial form and the connecting wires are drawn in very clearly. All forms of Crystal Circuits and Valve Circuits are given.

[post free 1/-] **16**



Would you pay an expert half a crown to show you how to build a Set?

PERHAPS you have a Crystal Set and wish to make up a good Valve Receiver—but you lack confidence and feel that you may not be successful.

Would you pay an expert half-a-crown to advise you? Certainly you would. The four Books described below are all written by experts and none costs more than 2/- Each Book is clearly written to describe every step, from the selection of the components, the drilling of the panel, the building of the cabinet, the assembling of the Set, the wiring and the fine testing. In every case a good idea of the results likely to be obtained on an average aerial will help to show the experimenter whether he is getting the best possible results.

These Books are on sale at all Booksellers, or may be obtained direct from Publishers (postage 2d. extra).

Twelve Tested Wireless Sets

By Percy W. Barr's

A first-class Book for the home Constructor by the assistant editor of "Modern Wireless." Embraces a wide range of Sets from a Crystal Receiver costing half-a-crown to an S.T.100, an All-Concert Receiver and an Improved Primary. In addition, a new Set using two stages of high frequency which can be relied upon to pick up American Broadcasting with the greatest ease when conditions are favourable. A special chapter is devoted to wave traps and devices to enable interference from the local B.B.C. Station and 26 miles to be eliminated.

[post free 1/-] **16**

How to Make a Unit Receiver

By E. Beaglethorpe

The idea of expanding Bookcases as applied to Wireless. The particular Receiver described in this Book consists of four Units which, when coupled together, will receive every B.B.C. Station and will work a Loud Speaker from the nearest one. Yet the first Unit by itself will enable Broadcasting to be enjoyed if you are within 30-40 miles from a B.B.C. Station. The other Units can be added at your leisure. This economical system will command itself to the man of moderate means.

[post free 2/-] **26**

Tuning Coils and how to wind them

By G. P. Kendall, B.Sc.

There is probably no single Component in any Receiving Set able to exert so much influence as an Inductance Coil. A highly efficient Coil for Coaxial will often make all the difference between mediocre results and really clear and loud reception.

Even if you feel that your present set is giving reasonably good results, the chances are that it will be worth your while—provided that you are using plug-in coils—for short wave-lengths to use a set of home-made basket coils. Such coils as those have particularly low self-capacity.

This new Book by G. P. Kendall, B.Sc. (and editor), contains concise details for making every type of Coil used in Wireless today.

All necessary data, such as diameter of coils, gauge of wire, number of turns, etc., are given—the results of the author's own experiments.

16

Wireless Sets for Home Constructors

See No. 12. By E. Beaglethorpe

The latest addition to the Radio Press Series of Constructional Books. Contains designs for a number of Receiving Sets of proved efficiency. The author, an assistant Editor of "Wireless Weekly," has had considerable experience in designing Sets suitable for the average amateur to make up, and this Book is the direct outcome of experiments carried out during the last few months. Every instrument is well within the ability of the man who can handle ordinary household tools, and full particulars are given for making over the usual components required. The scope of this book includes Crystal and Valve Receivers with a range from 2½ miles up to 3,000 miles on telephone.

26

R Type

Filament Volts	+	4 volts
Filament Current	+	0.06 amps
Anode Volts	+	40-100 volts

B5 Type

Filament Volts	+	2.5-3 volts
Filament Current	+	0.06 amps
Anode Volts	+	20-40 volts

B4 Type

Filament Volts	+	6 volts
Filament Current	+	0.25 amps
Anode Volts	+	40-100 volts

**B.T.H.
RADIO VALVES**

THREE are no better valves in the world than the three illustrated above. The R valve for general purposes, the B5 valve (*0.06 amps*) for use with dry batteries, and the B4 power amplifying valve (*0.25 amps*) meet all requirements of experimenter and listener-in.

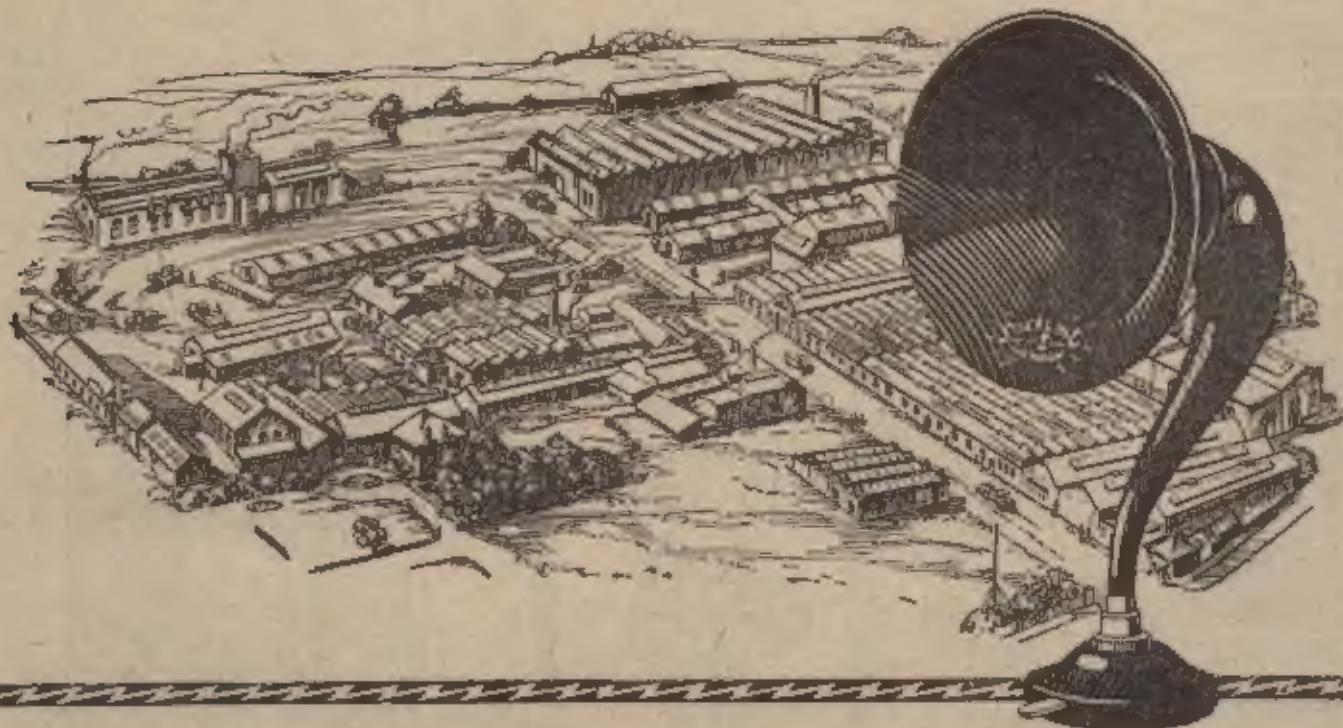
The amber-tinted bulb of the R type and B4 valves and the silvered bulb of the B5 valve are the outward and visible signs of a perfect vacuum. The colouring of the bulbs is an incidental result of a process which produces a high and permanent vacuum. Bear this point in mind and buy B.T.H. valves always.

The British Thomson-Houston Co. Ltd
(Wholesale only)

Works, Croydon, London Office, Crown House, Aldwych, W.C.2

Branches at: Belfast, Birmingham, Cardiff, Dublin, Glasgow,
Leeds, Liverpool, Middlesbrough, Manchester,
Newcastle, Swansea, Sheffield.

2008



The Works behind the Goods!

Twelve acres! An area covered with shops bristling with the most up-to-date plant, producing radio apparatus day and night bearing the name "Sterling." Hundreds upon hundreds of skilled operatives working under the direction of the ablest radio experts and production organisers, turning out goods to meet the phenomenal demand for "Sterling" radio. A demand built up by one thing, and one thing only—quality. "Sterling" quality means right design, finest material, superb workmanship, and consequently unsurpassed performance. "Sterling" sales prove this.

At these works the "STERLING" BABY LOUD SPEAKER is produced—an instrument easily the first favourite of the radio public. Flawless in reproduction, natural in tone, distortionless, and wonderfully loud for its size.

The "Sterling" Baby Loud Speaker is supplied in the following finishes and in two resistances—120 or 2,000 ohms. Height overall, 19 ins.; diameter of flare, 10½ ins.; diameter of base, 5½ ins.

In Black Enamel	£2 15 0
In Black and Gold Floral Design	£3 0 0

Sterling Baby Loud Speaker

The Best of its Class
Hear it at your dealers!

Advt. of STERLING TELEPHONE & ELECTRIC CO. LTD.
Manufacturers of Telephones and Radio Apparatus, etc.
210-212 TOTTENHAM COURT ROAD, LONDON, W.1
Works: DAGENHAM, ESSEX

